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THE AMERICAN

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JULY, 1861.

ESSAYS, MONOGRAPHS, AND CASES.

Annual Address delivered before the Chicago Academy of Medical Sciences, December, 1860. By M. O. HEYDOCK, M.D.

It has been urged against the Science of Medicine by many who are prone to take a superficial view of things, to judge by results alone, smoke and noise, rather than the means by which ends are accomplished, that as a science it is not progressive; that while the present century has been fruitful beyond all precedent in extending the domains of knowledge through all the avenues previously opened, medicine alone follows a beaten track; that in the application of remedies for the alleviation of "the ills which flesh is heir to," we are not far advanced beyond the times of Sydenham, not to go further back; that the discoveries in which we glory, and which encourage us, are not deductions from the experience and knowledge of by-gone centuries, but fortunate revelations oftentimes made known to the illiterate, and by us seized and incorporated with many others of like origin, and which constitute the sum and essence of practical medicine.

That the history of medicine furnishes a few facts in support of this latter statement, we do not deny; and yet something as trivial unlocked the mystery of gravitation to Newton, and has given man many of the forces and combinations by which he overcomes the laws which govern matter, and makes them subservient to his will and comfort; but that half a century finds us at its close what we were when it dawned upon us, is most untrue, and I need only cite in support of our claims to growth and advancement two or three discoveries which have contributed as much to the happiness of our race as any since time began. It is hardly extravagant to say, that vaccination has saved to the century a generation. Percussion and auscultation go hand in hand with the divine revelation of Harvey, and ether and chloroform, better "than poppy or mandragora, or all the drowsy syrups of this world," steep the senses in forgetfulness to the untold horrors and agonies which are associated with the operator's table. It is true that the same advance has not been made in our materia medica and the successful application of remedies for the removal of disease, as in our knowledge of what constitutes the disease; but in pathology and physiology, in diagnosis and prognosis, in etiology and public hygiene, we walk in confidence where our brothers of the last century groped their uncertain way. The researches of Bell and Hall have let in a flood of light upon the physiology of the nervous system. Auscultation and percussion reveal the hitherto hidden mysteries of the chest, and as its murmurs whisper to the ear, coming events cast their long shadows before; but with them we have the great advantages which physical signs give over the rational; if we cannot remove we may retard a disease in its incipiency, which, if undetected until the rational signs were fully developed, would pursue its relentless march, unchecked by all the resources of our art.

Close and careful analyses of the normal and abnormal condition of the blood have been made by Bernard, Andral, Simon, Bennett, and others, and the diseases characterized by changes in its constituents, more accurately pointed out, and indications of treatment suggested, of a constitutional character, where heretofore it had been addressed to an organ whose morbid condition had been considered as causative of the disease, rather than as an effect produced by an abnormal condition of the fluid itself.

But I need not recount one by one the splendid discoveries which have marked almost every year of the past sixty to prove that we are not the drones many would have the world believe. True, I have said that our remedies have not kept pace with our knowledge of disease, but this is no just cause for discouragement. In this direction we need the same patient, discriminating and exact research and investigation which have characterized our labors in other directions. We are too apt to prescribe remedies combined, rather than uncombined; true though it be that some of the best we have are happy combinations, yet simplicity in prescription is the only method by which we can winnow the chaff from the wheat, or give therapeutics its true place, which is the first place in our art. If members of our medical societies would, during a year, study the properties of one or two remedies, free of prejudice for or against, and merely note effects produced by their administration with little variation in a reasonable number of cases, allowances being made for idiosyncrasies and conditions of the system, and, at the end of the year, a report made of this experience, how great would be the benefit conferred upon the profession at large!

New remedies, or some new application of the old, are suggested every day, but if of real value, the profession are slow to adopt them. Chlorate of potash, for instance, now universally used and recognized as one of the most reliable of all our remedies for certain diseases, has been an article of the materia medica for years, but its value unrecognized till recently. Veratrum viride in our Dispensatory of 1851 is just referred to as a sedative to the heart's action, but its emetic qualities are more dwelt upon, while it is now the most certain and reliable of all our arterial sedatives, digitalis and aconite not excepted.

These remarks have been suggested by the nature of the disease to which I would ask your attention this evening; one over which medicine has thus far seemed to exert little or no control.

Prof. J. Hughes Bennett, in October, 1845, published an account of a disease unrecognized by the profession before, to which he has given the name of Leucocythemia, or white cell-blood. "A morbid condition of the blood consisting of multitudes of colorless corpuscles, resembling those of pus, associated with hypertrophy of the spleen and liver, and presenting after death peculiar white coagula."

About the same time Virchow published an article confirmatory of these observations, but with the additional statement that a similar condition of the blood was associated with an enlargement of the lymphatic glands, without hypertrophy of the spleen.

In a case reported by Dr. Bennett, it appeared that the fibrin was increased to about double its amount in health; the albumen and salts existed in their normal proportions; the red globules were diminished to about one-half their normal amount, but this diminution was counterbalanced by an increase in the amount of water. Blood drawn from the arm of this patient gave the following results:

Fibrin 6 parts in a thousand, the proportion in health being from 2 to $3\frac{1}{2}$; average about $2\frac{1}{5}$, the serous solids being 72; the proportion in health being about the same, 72 to 88. Globules were 67;

the proportion being in health from 110 to 152; the average being for males, 141; for females, 127.

He says that when we subject a drop of this blood to the microscope, the red and white globules may be seen rolling confusedly together, the latter evidently in excess; after a time the colored bodies are aggregated together in rolls; leaving clear spaces between them, which are more or less crowded with the colorless ones.

These white corpuscles seem to vary in size; even in the same individual sometimes being a good deal larger than the red, then the same size, and even smaller. The organs most uniformly diseased are the spleen, liver, and lymphatic glands.

The spleen in the majority of cases was found enlarged, though this hypertrophy has been seen in many cases without this change in the blood; the texture of the organ varied in different cases. Next in frequency the liver has been found diseased; most generally merely hypertrophied.

The lymphatic glands are also frequently found enlarged; generally they are soft, yielding a copious turbid juice on pressure; though sometimes indurated from calcareous deposits, or from tubercular or cancerous exudation. This condition of the blood has been found associated with other lesions, as a cancerous affection of the thyroid body, and Addison's disease of supra-renal capsules.

That these organs play a prominent part in the generation of white corpuscles, seems to be pretty generally accepted, for the blood found in the splenic and portal veins, we are told, is richer in white corpusses than the systemic; and also that the colorless cells of the blood are the same as those of chyle and lymph, and are formed before entering that fluid.

Dr. Bennett, in his able summary, concludes, 1st. That the blood-corpuscles of vertebrate animals are formed in the lymphatic glandular system, and that the majority of them become colored upon joining the circulation.

2d. That in mammalia this system is composed of the spleen, thymus, thyroid, supra-renal, pituitary, pineal, and lymphatic glands.

3d. That in fishes, reptiles and birds, the colored corpuscles are nucleated cells originating in those glands; but in mammals they are free nuclei, sometimes derived as such from the glands, at others developed within colorless cells.

4th. That in certain hypertrophies of the lymphatic glands in man, cell elements are multiplied to an unusual extent, and under such circumstances find their way into the blood, and constitute an increase in the number of its colorless cells. A corresponding diminution in the formation of free nuclei, and consequently of colored corpuscles, must also occur.

We have thus far been occupied with the disease, leucocythemia, to the pathology and treatment of which little has been added since Dr. Bennett's papers of 1852.

In the summer of 1859, Dr. Wilks, of Guy's Hospital, presented to the Pathological Society of London morbid specimens taken from a patient whose disease, though not very uncommon, had never received any distinct designation, or its pathology been specially investigated.

Its peculiar features were the extreme pallor of anæmia, enlargement of the various groups of lymphatic glands, either internal or external to the body, with occasional enlargement of the spleen. This disease he named "*Anœmia Lymphatica.*" In many respects it seems the analogue of the disease treated of by Dr. Bennett, and yet there seems to be a marked difference between the two. Leucocythemia is characterized by an *excess* of white corpuscles and fibrin, and there is no uniformity of pathological condition in respect to the texture of the glandular organs implicated; the spleen at one time being merely hypertrophied and of unusual density, again natural, and in yet another class of cases pulpy. The liver is found diseased; either hypertrophied, cirrhosed, or cancerous. The lymphatics either soft or indurated, yielding a turbid juice, or hard, from calcareous, cancerous, or tubercular deposit.

Anæmia lymphatica, on the contrary, shows no decided *increase* in white corpuscles, but rather a diminution in the red. I have seen no quantitative analysis of the blood in this disease, by which we can judge as to the amounts of fibrin or solids; but, reasoning from analogy, I think we should expect to find the former in excess. I find little reference made to any morbid condition of the liver here, while in leucocythemia, in thirteen cases out of fifteen examined, it was pronounced diseased. The most marked peculiarity which distinguishes this disease from the former is the uniformity with which the same adventitious tissue may be found in the spleen and lymphatics. These glands, when cut open, were found to contain a white, translucent, and tough structure, consisting of an albuminous or lardaceous matter, with a fibrous tissue; the other organs sometimes contain a small amount of the same deposit Tubercle, and a waxy or lardaceous matter, sometimes found, show how closely they are allied to these forms of degeneration.

The microscope shows that the main elements of these glands are alike; that they consist of delicate bodies, of a rounded form, and in size are a little larger than white corpuscles, with very delicate parietes and almost transparent contents, so that they are sometimes recognized with difficulty; nothing like a nucleus was visible when recent, though after immersion in spirits something like one would occasionally present itself. The colorless corpuscles in leucocythemia, according to Bennett, when treated by acetic acid, are found to contain a nucleus, and in this connection we may seek an explanation of the extreme pallor which is so peculiar to anæmia lymphatica. The blood, in cases somewhat similar, has been found to possess an acid reaction, and sometimes resembles pink-colored water. The glands of the lumbar region and groin are as uniformly enlarged as any, though those of the cervical region and such as accompany the aorta, also the mesenteric and bronchial, are very frequently found hypertrophied to such an extent as to form a bed or mould for the large vessels or nerves which may chance to be in their vicinity.

These glands, as I have said, present the same general appearance and character; externally they are of a lightish-yellow color, but upon section they are of a dark or bright red, and are easily broken down. Dr. Ogle says the various viscera are found greatly congested, but nothing more, and that in no case has softening or suppuration taken place. In several cases reported a milky fluid has been found in the pleural cavities, and in one an excess in the pericardium.

As to its etiology little seems to be known, further than that it does not seem to be associated with or be caused by inflammation or malaria; some profound lesion of the blood-making organs has destroyed the complex and harmonious affinities which exist in health, as subtle as that which characterizes tubercle or fatty degenerations. The symptoms in many respects are analogous to those of simple anæmia, such as we find arising from profuse hæmorrhages and wasting discharges. Like all diseases characterized by molecular change or faulty development, its approach is usually gradual, and extending over a period of months or years; yet cases are reported where the disease has run its course in two months. Most frequently an enlargement of the left hypochondrium will be first observed, which may or may not be accompanied with pain; subsequent to which the lymphatics of the groin, axilla or cervical region become enlarged, and like changes seem to be going on within the body.

This hypertrophy of the spleen is not *always* present, nor the first manifestation noticed, as it may not be perceived until after that of the lymphatics; and in some cases there seems to be a general enlargement of the abdomen, rather than the splenic region alone. Dr. Wilks observes, "that the uniformity which characterizes the symptoms during life, and the appearances after death, is too marked to constitute merely a coincidence of disease between the glands and the spleen, and that therefore there is without doubt a peculiar form of affection involving these organs, accompanied by an anæmic cachexia, prostration, and death."

Anæmic murmurs are sometimes found, when the ear is applied to the region of the heart and the aorta.

The discharges from the bowels are clay-colored, scanty and exceedingly offensive, having the odor of decomposition almost from the moment of being voided.

The appetite, in the only case which has come under my own observation, was good until near the close of life.

The urine in the cases I have seen reported has been pronounced normal; in the case I saw, I found, upon several analyses, an excess of purpurine, which we are told by Bird is almost always connected with some functional or organic mischief of the liver and spleen, or some other organ connected with the portal circulation, and that its intensity is in relation with the magnitude of the existing disease.

As to prognosis, the experience thus far recorded gives nothing favorable as the result of treatment; with a single exception, when the patient is reported as leaving the hospital "somewhat improved;" every case has resulted fatally.

The following case came under my observation and treatment in 1858 and '9, the first of the kind I had seen. I consulted our standard books of reference, but they seemed to throw little light upon the subject; though the cases recorded by Dr. Bennett in his paper upon Leucocythemia in many respects tallied very closely with this, yet they differed in many particulars. But in the papers by Drs. Ogle, Wilks, and others, I found portrayed a disease whose features were strikingly like those exhibited in the case to which I have referred.

I was called in February, 1858, to see Mrs. ——, a lady about twenty-eight years of age, of a slight figure, fair hair and blue eyes; had been married about ten years, borne no children, and until recently, enjoyed good, though not robust, health. For some little time past she had been drooping, without any apparent cause. I found her complaining of pain in the right groin; frequent desire to micturate; menses scanty, and almost colorless; abdomen tympanitic; dejections small, pasty, greenish, and exceedingly offensive; pulse small, and rather quick; appetite good; general appearance decidedly anæmic. I prescribed for her ferruginous tonics, ale, porter, and a generous diet, which constituted, in the main, the treatment for some three months, her appetite remaining good, and her allowance of food equal to that of a person in good health; yet the anæmia became more and more marked each month, and her strength gradually failed. Finding little benefit from treatment, I advised, in July, that she should travel, and before returning, visit the sea-side. After some three or four weeks' absence, she returned, the pallor observedly increased, and in no respect was she benefited by her journey.

She now complained of a stiffness of the joints of both upper and lower extremities, which, at the first glance, seemed of a rheumatic character; but upon examination the joints were found to be unaffected, and the stiffness had its origin in some painful affection of the muscles themselves. This condition of things continued some little time, uninfluenced by the use of iodide of potash and like remedies internally, and many external applications. It seemed like some low grade of inflammation, being tender upon pressure, and slightly swollen.

About the first of October, subcutaneous swellings about the size of a very small bean were observed over and in the neighborhood of these muscles; these were painful, of a dark-bluish color, and seemed to follow a chain of glands down the arm, as we have seen them run from a punctured finger or dissection wound. The pulse was 112 per minute; the tongue had a whitish coat, and the tympanitis was much increased, and attended with considerable pain.

During November I used externally tinct. iodine, with cod-liver oil in whiskey internally, three times a day. Under this treatment the swellings of the upper extremities diminished somewhat in size and number, though the soreness of the muscles in a great measure remained. I now found glandular enlargements in the groin, and a good deal of tenderness along the track of the femoral artery and its distributions, and a hardness like that which characterizes the vein in phlegmasia dolens. The leg was swollen, and, like the rest of the body, white and colorless as alabaster.

She was sensibly failing each week, and yet the appetite was generally vigorous, and gratified in every particular consistent with the complication which now set in, namely, diarrhœa. The dejections became much more offensive, and were of a greenish clay color. Mild mercurials, with small doses of castor oil, never seemed to change their character, from first to last.

The urine was subjected to several examinations during her sickness, but gave no trace of albumen or other abnormal product, save purpurine, as previously mentioned.

This was constant, and in abundance; its deep rich purple responding to the test proposed by Bird upon every occasion.

The abdomen was now so swollen that glandular enlargements, if any existed, could not be detected. Not having seen at this time any mention of the disease whose pathology we have briefly considered, I had regarded this case as one of mesenteric degeneration, complicated with a diseased condition of the lymphatic system generally, owing possibly to a depraved and vitiated condition of the fluids of the body.

I had satisfied myself, also, that malaria had nothing to do with the condition I have described, even as a remote cause, though symptoms somewhat similar are sometimes found associated with the enlarged spleen of a persistent intermittent.

In January the ankles became œdematous, and then the lower extremities throughout; this yielded somewhat to diuretics for a time; the diarrhœa was only controlled by opium; the emaciation was extreme, and she died in February, 1859, suffering little save from a feeling of exhaustion, and with a mind unclouded almost to the last.

I regret that I cannot give in support of my diagnosis such proof as an autopsy can alone afford, but none was obtained.

Treatment extended over a period of twelve months; the medicines administered were cod-liver oil, iodide of iron, quinine, and iodide of potash, chiefly with oleaginous frictions over the abdomen. But I have not dwelt on the treatment pursued, as I am not conscious that the progress of the disease was in the least retarded thereby; I merely make mention of it here, as I find that it was very like that pursued in the cases reported, and with a like result.

Report on the Clinic for Diseases of Children, held in the New York Medical College, Session 1860–61. By A. Jacobi, M.D., Professor of Infantile Pathology and Therapeutics.

(Continued from June No., p. 426.)

77. Maria B., æt. 9 years. *Atrichia Circumscripta.* Patient is a healthy-looking child, with well-formed head and soft and thick hair. There are, however, on the lateral, and particularly on the upper and posterior portion of the scalp, some twenty or thirty spots, of the average size of a Lima bean, entirely bald, and of a white appearance; they are not covered with any secretion or scab, but they are elevat-

ed, forming small tumors. All those which have recently arisen are somewhat painful on being pressed; those, however, of longer standing are not sensitive. The whole process commenced a year ago; in no instance has hair grown again where it once fell out. Before a microscopical examination was made, and before the idea of a parasitic origin of the disease was thereby suggested, the following prescriptions were given: R.—Liq hydriodat. arsenic. et hydrarg., (Donovan,) ℥ss. D. S.: 8 drops to be taken twice a day. R.—Bichlorid. hydrarg., ʒi.; aq., ℔. v. M. D. S.: for external use. The microscope showed the absence of fungi, and the case was then taken, the symptoms, moreover, perfectly corresponding with this diagnosis, as one of inflammation and induration of the follicles, with continuous pressure on, and injury to, the roots of the hair. Treatment: ℞.—Iodid. potassii, ʒij.; aq., ℥iv. M. D. S.: A tea-spoonful three times a day. ℞.—Iodid. sulphur., ℈j.; adip. suilli, ℥j. M. f. ungt. D. S.: For external use, three times a day. When last presented, no new bald places had arisen, and the old ones were less indurated, but no hair had as yet reappeared.

78. Isidor H., æt. 5 months. *Hæmorrhagiæ Subcutaneæ et Meningum.* Mother of patient is a dirty, thin, poorly nourished woman, with flabby breast, with other children who never showed similar symptoms. Patient is a small child, with thin lower extremities, otherwise apparently well developed, but with sallow skin generally, and enlarged liver. On his cheeks, temporal bone, chest, abdomen, back, in short, over all the surface of his body, the skin is of a dark livid, brownish color, elevated and hardened, to compare with the induration and elevation of urticaria. But the circumference of those spots is larger, being from one to six or eight square inches in size. Thus, the color and nature of the disease being evidently of petechial character, the local affections are enormously larger. Gums not affected. Lower extremities paralyzed for some time; as long, indeed, as the hæmorrhages have occurred under and in the external skin. Thus, the assumption of hæmorrhage inside the vertebral column having taken place cotemporaneously with the others, is more than probable. Further, the assumption of local affections being the cause of the hæmorrhages, almost countless in number, must be given up. The cause must be looked for in either a thorough change in the composition of the blood, or a decomposition of the walls of the blood-vessels, or both. For such only are the means of explaining the hæmorrhages occurring in all the cases of poisoning and decomposition of the blood, as in purpura, scarlatina, typhoid fever, scurvy, and others. Treatment: Reg-

ulation of diet, fresh air, beef, etc.; acids, both vegetable and mineral, carefully to be avoided--because, contrary to the belief in the styptic powers of acids, nothing will add more to the decomposition of the blood than a continued administration of acids; and ℞.—Tinct. fer. muriat., five drops every four hours. This was from time to time changed for syr. ferr. iodat. in similar doses, but the treatment has been continued ever since, for five months. Child meanwhile thrives; hæmorrhages gradually change their color into a greenish-yellow; no new ones make their appearance, and those existing lose considerably in intensity; the motor power of the lower extremities greatly improved.

79. Leonard H., æt. 3 years and 6 months. *Phlegmone, Cellulitis, and Periostitis* of first toe, right foot, caused by traumatic injury. Intense pain for some weeks past; toe of a deep-red color, nail thrown off; abscess near matrix. Treatment: Deep incision to the bone of the last phalanx, and cold water to the part; after some days, application of Goulard's water with tinct. opii.

80. Michael T., æt. 4 months. *Eczema Capitis.* Apparently mild case, but is likely to prove obstinate, as probably the breast-milk of the mother, now constituting the only food, is insufficient nourishment. Treatment: Soap and water, and frequent application of zinc. sulphat., ʒj.; axung. porci., ʒvj.; continued for several weeks before the scalp appeared entirely clean. Returns after two months with the same symptoms, the eczematous scabs being even thicker than before. Treatment: Two meals daily, (in addition to breast-milk, which appears very white and heavy,) of beef-tea, well salted; and ℞.—Liq. potass. caust., ʒj.; ol. morrhuæ, ℥j. M. D. S.: To be applied twice a day.

81. Samuel D., æt. 5 years. *Terrores Nocturni ex Febri Intermittente. Spasmus Vesicæ Urinariæ.* Is well all day, takes his food regularly, his supper at 6 P. M., goes to bed between 8 and 9 P. M., awakes with feverish symptoms and night terrors between 10 and 11 P. M., and can hardly be quieted before midnight. Digestive organs in order; no constipation; no worms; heart normal, both in anatomical condition and function; no cerebral symptoms except those mentioned; this condition of things has come on suddenly, and has continued for more than a week; moreover, he has a constant inclination to pass urine; its emission is scanty and painful; no mucous deposits reported to have been observed by the father. Treatment: ℞.—Sulphat. cinch., gr. xv. Div. in p. ii. D. S.: a powder at 7 o'clock, P. M., on two subsequent days; besides, ℞.—Pulv. rad. belladonn., gr. viii.; sacch. alb., ℈ij. M. f. pulv. div. in p. æq., No. xvj. D. S.: three

powders a day. Reported to be well after a week; no more night terrors after the first dose of quinine.

82. Francis P., æt. 7 years. *Dentes Incisores Obliqui.* The middle permanent lower incisors have protruded before the temporary had fallen out, and point inward and upward. The temporary teeth extracted.

83. Charles B., æt. 2 months. *Frenulum Linguæ Oblongatum.* Incision.

84. James A., æt. 9 years. *Dilatatio Cordis. Anæmia.* Patient is believed to have been well during the greater part of his life, but for two months past he has been exposed to five attacks of a peculiar nature. Shortly after falling asleep, he awoke with twitching of the muscles of the right side of face, which lasted about a minute; after this his limbs got slightly rigid, a rattling noise was heard in his throat, his face grew pale, and his mental faculties seemed somewhat obnubilated for a short while; meanwhile his health otherwise, and his appetite, are not impaired. A younger sister of patient fell sick half a year ago with attacks of convulsions; she died after four weeks' illness. A brother of twenty-one years of age died after an illness of eighteen days, after having previously repeatedly suffered from palpitations of the heart; they would return in a very troublesome manner whenever he partook of stimulants during his malady. He died suddenly, after half an hour's palpitation of the heart, brought on by taking a small quantity of brandy-punch. This patient is very tall for his age, thin and pale; conjunctivæ very anæmic; impulse of heart and pulse very feeble; pulse 116; external veins on thorax and abdomen greatly injected; dull sound on sternum and left side of thorax, from third to sixth ribs; attacks of weakness and syncope from time to time. Treatment: Air, generous diet. ℞.—Ferr. carbonat., ʒj. Div. in p. æq., No. xxx. D. S.: three powders daily. This treatment was continued for a long time, and patient was, and felt, greatly improved.

85. Maria M., æt. 2 years. *Stomatitis. Amygdalitis.* Mucous membrane of the mouth, tonsils, and pharynx highly injected; tonsils swelled, and to be felt externally; tongue red; papillæ clavatæ elevated; breath not particularly fœtid; submaxillary or cervical glands not particularly swollen. Treatment: ℞.—Chlorat. potass., ʒiii.; aq., ℥vi. M. D. S.: A tea-spoonful every hour.

86. George B., æt. 6 years. *Rhachitis.* Is reported to have been affected with scarlatina when eight months old, this being about the only sickness he has ever suffered from. He is not well developed; his frame small; face and general appearance anæmic; intellect good.

The upper and lower condyles of tibiæ are greatly swollen; so is the lower of the radius; tibiæ show curvature inward; sides of the thorax flat, there being nearly a right angle in about the half length of all the ribs; sternum prominent; no scoliosis; impulse of heart very strong; sounds audible at a great distance; no disease of the lungs, except general compression. Treatment, besides regulation of diet: ℞.—Ferri. phosphat., gr. iv., three times a day; cod-liver oil.

87. Thos. J., æt. 4 years. *Fractura Claviculæ, extr. Acromialis.* Clavicle was fractured in its outer third, transversely, from a fall on the hand and elbow. Treatment: Mitella, fastened by a few pins. Presented well a fortnight after.

88. James A., æt. 9 years. *Herpes Circinnatus*, (ring-worm,) on four distinct localities on abdomen and right femur, of a quarter of an inch to two inches in diameter. ℞.—Sulphat. ferri, ʒj.; Cerate simplic., ʒvj. M. f. ungt.

89. George F., æt. 12 years. *Prolapsus Recti.* Had dysentery last year, and has suffered from prolapsus of the rectum since. The rectum, with all its membranes, will protrude about an inch and a half through the anus after each defecation, viz., twice or three times a day. The mucous membrane will frequently bleed, is livid and swelled. Treatment: ℞.—Ext. nuc. vom. alc., ℈j.; cerat. simplic., ʒij. M. f. ungt. The size of a bean to be introduced three times a day. Reported a week after so much better, that sometimes a defecation will take place without prolapsus, and that the rectum will generally protrude but once a day. Treatment had, however, to be continued for six weeks.

90. John O'L., æt. 3 years, 3 months. *Prolapsus Membranæ Mucosæ Recti.* The mucous membrane will protrude after every defecation, (1 or 2 a day,) for a little more than half an inch. Patient has been suffering from chronic intestinal catarrh for a number of weeks, and has not been well for more than a fortnight. ℞.—Acid. tannici, ʒiii.; aq., ℔. iii. M. D. S.: An injection of an ounce to be made three times a day.

91. George C., æt. 2 months. *Fungus Umbilicalis.* Firm cicatrization has never taken place after the falling off of the funis, but a pediculated excrescence has been observed growing from the wound for a number of weeks. Now it has reached the size of a bean. Treatment: Ligature.

92. Esther B., æt. 4 months. *Intertrigo.* The folds of the neck, groins, and femur are partly erythematous, partly ulcerated, after having lost their epidermis. The child is well, fat, and hearty; no diar-

rhœa; no morbid predisposition probable. ℞.—Sulphat. zinci., ℥ss. D. S.: To be dissolved in a quart of water, and applied externally.

93. N. M., æt. 4 months. *Intertrigo.* The folds of neck and groins erythematous. No ulcerations. The child, when presented, was wet and dirty. Scrofulous; cleanliness and cold water recommended. Three days after, still erythema. Goulard's wash.

94. Mary L. D., æt. 3 months. *Atheroma.* A small circumscribed tumor of the size of a small revolver ball, on the outer end of left superciliary arch; not painful; believed to have been caused by a fall some weeks ago. Treatment: Subcutaneous discission and pressure. A clear, viscid liquid was squeezed through the external wound.

95. Ann L., æt. 12 years. *Chorea Minor.* Involuntary movements of all the voluntary muscles, particularly of the right side. Difficulty in speaking, swallowing; twitching of the muscles of the face; sometimes, for a short time, strabismus. Has been in about the same state for three months, without any premonitory symptoms, or without any preceding disease except a mild intestinal catarrh. No pulmonary symptoms; no heart disease. Never had acute rheumatism. Is very tall for her age, and anæmic; impulse of the heart pretty strong; cheeks and conjunctivæ pale. No fever. Treatment: Solut. arsenic. Fowler, ℥ss. D. S.: three drops three times a day; and ℞.—Syr. ferri iodid. D. S.: twenty drops three times a day. Presented, after three weeks, greatly improved.

96. Charles L., æt. 9 months. *Vaccination* performed.

97. Peter L., æt. 8 years. *Helminthiasis.* A number of ascarides have been passed, previous to which, the boy had suffered for months from restlessness and occasional night terrors; from diarrhœa alternating with constipation, and loss of appetite, interrupted by voraciousness. Cheeks bloated. Pupils enlarged. Treatment: ℞.—Santonia., gr. viii.; Submuriat. hydrarg., gr. xv. M. f. pulv., div. in p. æq. vj. D. S.: Take three powders a day.

98. Edward P., æt. 12 weeks. *Eczema Capitis. Constipatio.* A brother of this patient, now three years old, has had an eczematous eruption since his fourth month. Thus, there is probably a morbid condition common to both, or the cause is to be sought for in the breast-milk of the mother. Child is mostly constipated, having a passage once a day, or once in two days. Fæces look white, curdled, are hard, and not of a uniform character. The milk of the mother looks also whiter, and is less sweet than normal. Thus, at all events, there is some fault in the nutrition of the patient, being the probable cause of both eczema and constipation, viz., superabundance of caseine

in the composition of the milk. By restoring a more normal composition, we shall probably remove one, and greatly relieve the other of the two complaints. Evidently, there is sugar wanting in the mother's milk, if nothing more. By restoring the power of producing lactic acid, the caseine will be digested and assimilated, and the bowels will no longer remain constipated. Treatment: Give the child, each time before he is put to the breast, a tea-spoonful of powdered white sugar in a little water. Wash the head with soap and water thoroughly, three times a day, and afterwards rub it with, ℞.—Zinc. oxyd. albi, ʒj.; adip. suilli, ʒij. M. f. ungt. Child had no constipation when presented a fortnight afterwards; fauces yellowish and uniform. Eczema doing well.

99. Ellen McK., æt. 4 years. *Broncho-Pneumonia, Rhachitis, Anæmia.* The girl is emaciated and anæmic from two causes. She has been rhachitic for years, and suffering from bronchitis and pneumonia for six weeks. Her limbs show the symptoms of rhachitic curvature and intumescence; her ribs are laterally compressed; cheeks and mucous membranes very pale. Percussion sound dull over left fossa supra-spinata; mucous râles over left lung, both anteriorly and posteriorly. No fever, no dyspnœa, both of which are reported to have been very intense some weeks ago. As the pulmonary symptoms are evidently diminishing spontaneously, the greatest care is to be given to the general health; the more so as the appetite is very low, tongue furred, and pulse small and frequent. Treatment: Nitrogeneous food, fresh air, and ℞.—Sulph. cinchon., ℈j.; subnit. bismuth, ʒss. M. f., pulv. div. in p. æq. No. xii. D. S.: Three powders a day. This prescription is again given after some days, and digestion being in fair order, cod-liver oil recommended.

100. Mary D., æt. 1 year, 2 months. *Oxyuris Vermicularis.* For a number of weeks the child has been observed to scratch his anus and genitals, both of which are hyperæmic. Slight discharge from vagina. Tenesmus. A number of oxyurides have been found in the evacuations. Treatment: Injections once a day, for three days, of a fresh-made decoction of garlic in milk. Cold water externally.

101. James T., æt. 8 months. *Eczema Capitis.*

102. Edward P., æt. 3 months. *Eczema Faciei et Colli.*

103. Conrad G., æt. 5 years. *Eczema Capitis et Faciei.*

104. Eliza C., æt. 3 years. *Eczema Capitis. Rhachitis. Catarrhus meatus auditorii externi.* Of these cases of eczema, 101 and 102 were such as are very common in general practice; cases of eruption attending the normal development of early infancy. The seat of the

greatest intensity in this development appears to be in both the solid and soft parts of the head, exhibiting not only in its normal effect the rapid growth of the bones of the cranium and face, the process of dentition, and a high temperature of the cranium, but also, as morbid symptoms, an exceedingly great inclination to convulsive and exudative diseases. Thus it happens that these eruptions are, under different names, often considered not as co-ordinates of, but as results from, a coincident process, viz., dentition. Now, as they are, in many cases, to be taken as excesses of a normal process, it follows, first, that eczematous eruptions, of long duration and great intensity in very young children, must not be suppressed at once, (cf. 38,) and further, that such cases are apt to prove very obstinate; the more so, as in a number of cases some errors of diet, sometimes arising from a defective constitution of the breast-milk, are amongst the causes. 101 and 102 were ordered to have the scabs removed by the frequent use of soap and water, and three times daily: ℞.—Zinc oxyd. alb., ʒj.; adip. suilli, ʒvj. M. f. ungt.; and in addition, the diet of the first was changed, so as to be more animal. 103 was a very hearty and stout boy, with hard and solid scabs all over his head and face, nose and eyelids scarcely excepted, covering a layer of pus and the sore scalp. The layer of dried-up pus, epithelium and dirt was so thick, (from $\frac{1}{12}$–$\frac{1}{4}$ inch,) that the features of the boy could not be recognized. He was reported to have been affected with this eruption for the last four years; that it sometimes had disappeared, but always returned. This case was ordered to be submitted to a universal combing, oiling and soaping, and to be presented three days afterwards. From this time forward he was washed, five or six times a day, with a solution of sulphate of zinc in water, (gr. vj.–xii. to ℥j.) 104 was a poorly-looking girl, with eczematous pustules all over her head, after like pustules had disappeared from the whole surface of her body, with symptoms of generally bad development. Glands were found to be swelled around her neck in a larger number than could be explained by the presence of the eruption; even some of the inguinal being tumefied. Catarrh of the external ears, with muco-purulent discharge, had been observed for several months, without there being an affection of the inner ear or the tympanum, and the large fontanel was still open. As this is closed, not by osseous matter, but a solid fibrous bridge to such an extent as not to allow the pulse to be felt through it, at thirteen or fourteen months of age, in normally developed children, this case exhibits a decided want of development in the osseous system. Moreover, the lower extremities show curvatures, and the radial extremities of both forearms are swelled. The discharge from the external ear was submitted to injections of: ℞.—Sulphat. zinci, ℈ij., aq. ℥vj., three times a day; the eczematous eruption treated with soap and water, and ℞.—Acid. tannic., ʒj; adip. suilli, ʒvj. M. f. ungt. D. S.: To be rubbed in three times a day; and the general constitution improved by mostly an animal diet, and the use of three doses daily of half a table-spoonful of cod-liver oil, with ten drops of syr. iodid. ferri.

105. John S., æt. 5 years. *Herpes Circinnatus* (Ring-Worm) on four different places of left shoulder, neck and face, of a diameter of from half an inch to nearly two inches. ℞.—Sulphat. zinci, ʒj.; adip. suilli, ʒvj. M. f. ungt. D. S.: For external use, four times a day; the same dose repeated after a week, when the boy was not yet quite well.

106. Catharine B., æt. 3 years. *Atrichia Localis. Erythema et Eczema.* The child had been severely burned over and near her large fontanel when four months old. No hair had grown there since, but the spot had almost always been sore. Usually there would appear small herpetic or eczematous vesicles, that would dry up and fall off after a while, leaving a sore and sensitive surface. The skin had never looked natural. Treatment consisted in the frequent application of a solution of bichloride of mercury in distilled water, (gr. j. to ℥j.) The color and consistency of the skin grew more natural from week to week, but the local baldness was not removed.

107. Patrick T., æt. 4 years, 6 months. *Catarrhus Laryngis.*

108. Mary R., æt. 5 years. *Catarrhus Laryngis et Pharyngis.*

Both of these patients have the peculiar croupy cough depending on catarrhal affection of the mucous membrane of the larynx, without any affection of the bronchi or lungs, and with very moderate fever. 107 was soon relieved by the use of syr. squill. compos., 15 drops every two hours, and a single dose, at bedtime, of pulv. Doveri, gr. iij. The other had been affected with measles fifteen months before, and was said to have coughed ever since. Consonant mucous râles occasionally heard over the bronchi, but none that could be attributed to an affection of the bronchial mucous membrane itself; no diminution nor abnormal harshness of respiration; no dull sound on percussion. If, indeed, cough has been present all the time, it cannot be explained by any pulmonary trouble, but depends on the catarrhal affection of the larynx and pharynx alone. This assumption is the more justified, the more it is proved by facts, that there are few more obstinate affections than chronic pharyngeal catarrh.

Treatment: Tinct. iodin. externally to the throat, twice a day. Pulv. Doveri, gr. iij., every night. Acid. benzoic., gr. j., every two hours for some days; after which time, as the patient commenced to feel relieved and to cough less, the expectorant was discontinued. The other treatment continued for some time, with good results.

109. Eliza S., æt. 1 year, 8 months. *Bronchitis.*

110. Jeremiah G., æt. 10 months. *Bronchitis.*

111. Edward D., æt. 3 years, 9 months. *Bronchitis.*

None of these cases could be called severe. The diagnosis was easily made, by the presence of sibilant and mucous râles; the former predominant in 109 and 111, the latter in 110, (in 111 on the left side only,) and the chest being sonorous on percussion. Fever moderate; some dyspnœa in all of them. No crepitating râles nor dullness, no paroxysms of cough. In none of them was the disease a secondary affection, and all of them got well in a few days. Internal treatment of 109: ℞.—Oxysulphuret. antimon., gr. viij.; extr. hyoscyam., gr. iv.; sacch. alb., ʒss. M. f. pulv. Div. in p. æq. xvj. D. S.: A powder every three hours. 110: ℞.—Muriat. ammon., extr. glycyrrhyz., ää., ʒij.; aq., ℥iij. M. D. S.: A tea-spoonful every two hours. 111: ℞.—Oxysulphur. antimon., gr. xvj.; sacch. alb., ℈ij. M. f. pulv., div. in p. æq. No. xvj. D. S.: A powder every three hours. ℞.—Pulv. Doveri, gr. iij., every night at bedtime.

112. James J., æt. 7 years. *Tuberculosis*, left lung, upper lobe.

113. Edward D., æt. 3 years, 7 months. *Pneumonia*, left lung.

114. James McC., æt. 2 years, 3 months. *Bronchitis*, right lung. *Pneumonia*, left lung, upper lobe.

115. Joseph F., æt. 14 years. *Pneumonia Bilateralis.*

116. Joseph McC., æt. 4 years. *Pneumonia*, right lung. *Rhachitis.*

Of 112 no exact history could be obtained, except that the patient had been coughing and suffering for a long time. Father said to be affected with some pulmonary trouble. Mucous râles all over the chest, especially in the right subclavicular region; here, also, decided dullness on percussion. Dyspnœa moderate. Pulse 124; respiration 34. Looks anæmic, and is evidently much emaciated. Was taken to be a case of pneumonia, right lung, upper lobe, accompanied by general bronchial catarrh, in its third stage, the hepatized parts being presumed to undergo a process of resolution. No treatment was, therefore, thought advisable, except ℞.—Sulphat. quin., ʒss., div. in p. æq. vj. D. S.: A powder every morning. After a week, the patient was again presented. Very few mucous râles; a few sibilant râles. Dullness in right subclavicular region as distinct as before; respiratory murmur vesicular, and diminished; respiratory murmur in left subclavicular region, puerile; expiratory murmur prolonged. Nowhere bronchial respiration. Moreover, right subclavicular region sunk, and right thorax of less circumference than left, by half an inch. From this time, the case was considered to be one of tuberculosis, and an appropriate diet, animal food, fresh air, gymnastic and other exercise, and cod-liver oil, ordered. No. 113 was a very anæmic boy, who had suffered from the first attack of scarlatina five weeks before. Thus he had scarcely gone through the whole process. This pneumonia was in the left lung, lower lobe, and probably small lobuli had taken part in the inflammatory process in other places, as there were sibilant and mucous râles spread over the lungs to a large extent. Treatment: Pulv. Dov., gr. ijss., every night; sulphat. quin., gr. vj., every morning. No. 114 was a very instructive case, inasmuch as it distinctly showed the relation of bronchitis and pneumonia in the infantile lung. When first seen, the child had bronchitis in the right lung, and a hepatized upper lobe of the right. Treatment: ℞.—Sulphat. quin., ℈ij.; acid. tannic., gr. viij. M. f. pulv. Div. in p. æq. No. xvj. D. S.: Two powders a day; and pulv. Dov., gr. ijss., every night. A week afterwards the hepatization had disappeared, no dullness being perceptible any longer; but where there was bronchitis before, hepatization had now taken place. Under a similar treatment, the boy soon recovered, but some time elapsed before his anæmic and general weakness was overcome. All the time, no sequelæ of scarlatina were observed. Still better than in this case, the relation between bronchitis and pneumonia, and the normal course of this latter disease, was illustrated by No. 115, a boy of fourteen years, in whom the disease had the peculiar lobular character of infantile age. He was presented on April 5th, with pneumonia, (hepatization,) in right lung, upper lobe, anteriorly, and bronchitis on left side. Treatment: Generous diet, and ℞.—Sulphat. quin., gr. xij.; ac. benzoic., ℈j.; gum-arabic, ℨss. M. f. pulv. Div. in p. æq., No. xvj. D. S.: A powder every two hours. April 9th.—Dullness over right lung, upper lobe, diminished; some mucous râles. Bronchitis on left side apparently in the same condition. Same treatment, with the addition of some daily doses of bismuth. subnitrat., gr. v., as his digestive powers were very low in consequence of an inveterate gastric catarrh. April 12th.—No more dullness on percussion over the right lung; some mucous râles; some also in the lower lobe, right lung, where no infiltration had been before discovered. Dullness on percussion over left lung, upper lobe, posteriorly, with bronchial respiration. April

16th—Vesicular respiration in right lung, and lower lobe left lung. Mucous râles in, and slight dullness on percussion over left lung, upper lobe. No fever, no dyspnœa, and appetite good. Patient was not presented afterwards. No. 116 was one of the frequent cases of lobular pneumonia in children whose constitution has never been good, and whose lungs are, in connection with the rhachitical misdevelopment, very subject to catarrhal affection. Such are the very cases that eminently show the necessity of tonic and restorative diet and treatment during the course of a large number of diseases of infantile age, even such as are often believed, from their inflammatory character, to require antiphlogistics, derivants, etc. Such are the cases in which quinine in large doses will prove to be the best antiphlogistic. Treatment: ℞.—Sulphat. quin., ℈j. Div. in p. æq., iv. D. S.: A powder to be taken every morning and afternoon. Two days afterwards, when the fever was less, and hepatization had fairly commenced: ℞.—Sulphat. quin., acid. benzoic., ää., ℈ij. M. f. pulv. Div. in p. æq., No. xx. D. S.: Give three powders every day.

117. Rudolph M., æt. 1 year, 4 months. *Hernia Inguinalis Sinistra.* Patient has had his inguinal hernia, left side, for a year. Nothing as yet has been done for it. Treatment: Truss, to keep back the hernia until the gradual change in the direction of the inguinal canal, taking place in early infancy, will have brought on a radical cure.

118. Benjamin B., æt. 3 years, 9 months. *Otitis Interna.* Patient had scarlatina a year ago, and hypertrophic tonsils still. Was observed to have a running ear soon after the scarlet fever. Discharge sometimes copious, sometimes little, white, yellowish; in rare instances bloody or serous. Smell sometimes offensive; tympanum perforated, and discharge evidently from the internal ear. Hearing on the left ear impaired. The disease is evidently the result of the throat complication of scarlatina, transmitted through the Eustachian tube into the internal ear. Prognosis, after the process has lasted so long, unfavorable as to a perfect restoration of hearing on the left ear. Treatment: Blister on the mastoid process; utmost cleanliness, and injections of a solution of tannic acid in water, gr. iv. to ℥j.

119. Catharine T., æt. 11 years. *Stomatitis, Pharyngitis. Adenitis Submaxillaris.* Inflammation of the pharynx and mouth was complicated with swelling of the submaxillary glands to such an extent as is usually seen in diphtheritic inflammation only. But no membranes, nor any ulcerations which could have been the seat of previous membranes, were visible. ℞.—Chlorat. potass., ℥ss.; aq., ℥viij. M. D. S.: Half a table-spoonful every two hours.

120. N. B. McF., æt. 3 years, 3 months. *Febris Exanthematica.* Pulse 140; respiration 36; face flushed, and head very hot. General temperature of all the body high; tongue slightly furred. Mouth hot, and pharynx somewhat injected; tonsils and some lymphatic glands in the neighborhood a little swelled. No cough, no diarrhœa. Threw up once. No local disease being found, the case was pronounced to be probably one of exanthematic fever, and a daily dose of sulphat. quin., gr. vj., recommended. Three days afterwards the child was reported to be suffering from scarlatina.

121. Michael C., æt. 4 years. *Ascites.* Patient had scarlatina ten months ago; two months after this affection the dropsical swelling of the abdomen was noticed. Other accounts are difficult to obtain. No anasarca, no local pain; no local disease except the abdominal effusion discovered. The case was therefore, before an examination of the urine could be made, taken as one of hydrops depending on albuminuria, and tannic acid, in three daily doses of two grains each, was given for a fortnight. Meanwhile no albumen was found in the urine, nor did the closest examination of every single organ reveal any anatomical degeneration that could be considered to be the cause of the disease. The liver alone could not be subjected to a sufficiently rigid examination, from the expansion of the abdominal cavity with liquid. The treatment was therefore merely symptomatical and palliative, with the intention of stimulating the secretions of other organs. ℞.—Infus. colocynth., (e. gr. xij. parat.,) ℥iv., liq. ammon. acetat., syr. squill, ää., ℥j. M. D. S.: Half a table-spoonful four times a day. The dose was gradually increased, until the perscription was this: ℞.—Infus. colocynth., (e. ℈ij. parat.,) ℥iv. ss., iodid. potassii, ʒv., liq., ammon. acetat., syr. squill, ää., ℥j. M. D. S.: Half a table-spoonful four times a day. The boy was under our care about seven weeks altogether, and was improved, but not cured.

122. Sarah R., æt. 11 years. *Meningitis Spinalis.* When patient was first presented, on April 19th, the following history was given: She had measles in January, 1860. Afterwards, she constantly complained of pain in her back, which gradually increased until in May, 1860, her locomotory power was somewhat affected. She, nevertheless, walked till August, when she lost all power over her limbs, and when sometimes "the water would stop," the catheter had to be used at different times, and excruciating pain was felt all through her body. Two months before she was presented, the first convulsions were noticed. She would violently shake upper and lower extremities, and would bite; at the same time her eyes would be shut. The color of

her face would not be changed much, and patient felt very much exhausted after such an attack. She would know when she was going to be taken with convulsions, which would come as frequently as eight or ten times during a day, and twice or three times during a night; every attack lasting from three to four minutes. All the weeks before she was presented, she had five or six attacks every day; and she was sure never to miss a day without having convulsions. Her mind appears to be intact; her appetite is moderate; thirst increased; pulse averages 118–120; bowels costive; water is passed slowly. Vertebral column is painful, both spontaneously and on pressure. There is no vertebra on which pressure is well borne; but the sixth and seventh cervical, and first, fourth, eighth and twelfth dorsal vertebræ are exceedingly sensitive. Only a limited motion is possible in the upper extremities; the hands are contracted, the flexor muscles overcoming the counteraction of the extensors. The same contraction is noticed in the toes of either foot. Both lower extremities paralyzed. The diagnosis was pronounced to be spinal hyperæmia, and a treatment was commenced according to the principles laid down recently by Brown-Séquard. It has long been supposed or known, that there are remedies that have a direct influence on the size of the blood-vessels; for instance—cinchona. On several others, Brown-Séquard has made very careful and accurate investigations, viz., on ergot and belladonna. He attributes to ergot the power of contracting the elastic layer of the blood-vessels, and vindicates to belladonna a similar action; so much so, that it would prove the exact contrast to opium, which is known to dilate the lumen of blood-vessels. Ergot is declared to be of excellent service in hyperæmic conditions of the spine and consecutive paralysis; whereas, strychnia, which has been the routine remedy in any and all spinal diseases complicated with paralysis, is indicated in such only where there is anæmia. Without, however, going into details here, I wish to add, that in a separate article I hope to expose other experiments and observations on the use and effect of ergot. Our patient was considered to be a fit subject for the administration of ergot, and the following prescription given: ℞.—Infus. secal. cornut. (e ʒjss, cum acid. sulphur. dilut. ℈j. parat.) ℥iv.; sulphat. quin., ʒss. M D. S.: a tea-spoonful every three hours. No local applications; no derivants whatsoever. On April 10th, she had two attacks; on April 11th, a very short one. Not a single attack since. On the 16th, a few drops of laudanum were administered, to check a diarrhœa; on the 30th, the ergot employed for the infusion was increased to ʒijss.; and on the 7th of May, when it was thought proper to give a chalybeate for her general anæmia, complicated with epistaxis at the same time, tinct. muriat. ferri, gtt. xij., was ordered to be taken three times a day. About this time she not only had no attacks of convulsions, but recovered the power of her lower extremities. She was presented to the class on May 24th, when she was able to walk, and the pain in her back was nothing compared with what it had been. After this time, she was taken, from a cause unknown to us, with catarrh of the stomach; so much so, that she commenced vomiting. Subnitrate of bismuth, carbonate of iron and alkalines, appeared not to operate so rapidly as we desired, and the condition of the stomach seemed to counter-indicate the use of the ergot; of Squibb's fluid extract I at that time had no reliable information. After ten days, during which time our patient had not taken ergot, she was again taken with convulsions. It was prescribed again, but according to what has been learned afterwards, it had probably not been taken. I then availed myself of the kindness of the directors of the Jews' Hospital, who permitted the patient to be transferred into one of their wards. There I commenced the administration of ergot again, and with the result that no convulsions were observed for a day or two. Slight twitchings were observed on the day of her transportation, and she complained much of pain in her back; but she soon felt better. Her stomach was still disordered, and in order to perfectly restore her digestive powers, I omitted ergot for a short time, ordering, however, a daily dose of quinine and gr. ss. of extr. belladon., three times a day. She had no convulsions, and recovered her appetite in two days, when she was clandestinely over-fed by her mother on the next visiting day. Again she vomited, throwing up immense quantities of indigestible food, but had no convulsions. Next day, when I went to the hospital with the intention of recommencing another course of ergot, having selected for this purpose Squibb's fluid extract, she was *non inventa*. Her mother had removed her, because "her darling did not get enough to eat, and had no doctor to take care of her;" and a day afterwards, she "had a clever doctor now, at last; and he had told her right off, that her darling could not be saved."

123. William C., æt. 7 months. *Rhachitis.* Epiphyses of the tibiæ, radii, and ulnæ, greatly swelled; legs curved outward; costal cartilages pointing forward; sternum prominent; ribs angular on both sides of the thorax; liver enlarged. Skin pale, anasartic. Child generally badly developed. No teeth; little hair. Occiput nearly bald; not mollified. Treatment: Generous diet. Ol. morrhuæ.

124. Leonora B., æt. 7 years. *Abscessus Auris externæ.*

125. Anna B., æt. 5 months. *Abscesses Capitis. Eczema Frontis.* Over the mastoid process and in the external ear, and just in front of the ear over the temporal artery, right side, there were deep and large abscesses, which had been maltreated with blisters, leeches, and *hoc genus omne.* Incision and water dressing. The abscess, 125, was on the top of the right parietal bone, near the small fontanel. Incision. The eczematous eruption was treated with a wash of sulphat. zinci, (gr. viij. to aq. ℥j.)

126. Moses F. B., æt. 8 months. *Synovitis.*

127. Th. T, æt. 3 years. *Synovitis.* These two cases were presented on two subsequent days, and a different teatment was resorted to. Both were in the foot-joint. One was treated with tinct. iodin. externally, twice a day, and was not presented long enough to afford a fair opportunity of learning its effects. The other was submitted to compression by means of a bandage, and its size was soon considerably reduced, but was also not presented until a complete cure could be accomplished.

128. James G., æt. 2 years, 3 months. *Prolapsus Recti. Pertussis.* Had gastro-intestinal catarrh last summer, and since then after each defecation the thickened mucous membrane and submucous tissue of the rectum would protrude from six to nine lines in length. Had, moreover, whooping-cough, which commenced last summer, and continued still but little abated up to March. ℞.—Extr. nuc. vomic., gr. x.; cerat. simplic., ʒij. M. f. ungt. D. S.: To be applied to the mucous membrane of the rectum three times a day. And: ℞.—Extr. bellad. alco., gr. viij.; sach. lact., ʒj. M. f. pulv., div. in p. æq. No. xvj. D. S.: Two powders a day. After a week, both the prolapsus and whooping-cough were greatly improved, and the treatment continued.

129. Mary F. T., æt. 1 year. *Adenitis Submaxillaris.* Patient was a small, puny child, with thin limbs, white skin, and rhachitic appearance. Her face was considerably swelled, in consequence of an immense tumefaction of both submaxillary regions, particularly the left. On the right side, single glands could still be distinguished, large though the swelling was, but the left side was a solid mass, with but a single spot on which a feeling like elasticity or fluctuation was perceptible. The child suffered from the utmost dyspnœa, snoring loud, and gasping for breath, being unable to open the mouth. The dyspnœa was very similar to that produced by general suppurative pharyngitis, or retro-pharyngeal abscess. The principal and most urgent symptoms were removed by an incision made into the tumor of

the left side. A large amount of pus was removed. From this time forward, the greatest care was taken to obtain two points, viz., to improve the general condition of the patient, and to reduce the size of the tumors on either side. Poultices were applied to the left; a second incision was made a week later; iodine was applied to the right side, (℞.—Iodid. potassii, ʒij.; glycerin., ℥ss.) and ol. morrhuæ ʒj. given three times a day, with six, eight, or ten drops of syr. iodid. ferri. Generous diet as soon as the child was again able to swallow. Low as the child was, and bad as her constitution appeared to have originally been, it took two months before even single glands could be distinguished in the left submaxillary region. But when the child was presented for the last time, and ordered the same treatment, there was no reasonable doubt of her perfect recovery after a little more time had elapsed.

130. Michael T., æt. 3 years, 6 months. *Pannus*, on both eyes. The spots on either eye have covered the centre of each cornea, just in front of the pupil, for a long time. The inflammatory process of conjunctivæ and corneæ, which has given rise to them, has pursued its course for years. Treatment: Daily application of submuriat. hydrargyr. to each eye. A fortnight afterwards the spots were reduced to half their former size. Treatment continued. Patient not again presented.

131. Christian L., æt. 5 years. *Anæmia. Intermittens.* Patient is tall enough for his age, but thin, emaciate, feeble and pale. Conjunctivæ and mucous membranes generally very anæmic. Complains of headache, unilateral and bilateral. The impulse of heart strong, but no abnormal sound; no bellows murmur; nor is there abnormal dullness on percussion. Every night, for a week past, he has been awakened a few hours after he has fallen asleep, by an attack of fever, that would last a few hours. As no cause of any other nature can be found to explain these attacks, they are taken as attacks of intermittent fever. ℞.—Sulphat. quin., gr. xv. Div. in p. æq. ij. D. S.: A powder at bedtime on two subsequent days. No other attack was observed. His general health was gradually improved, and his anæmia removed, by three daily doses of carbonat. ferri, gr. ij., each.

132. Mary V., æt. 7 years *Insufficientia Valvulæ Mitralis, Hypertrophia Cordis, et Hepatis, Icterus.*

133. Kate M., æt. 9 years. *Insufficientia Valvulæ Mitralis. Anæmia.*

According to the history of No. 132, she had acute rheumatism some four years ago. She had not been herself since. Was emaciated; suffered occasionally from dyspnœa and palpitations, and loss of appetite. Bellows murmur instead of the first sound, nearly covering the second; most audible below and near the left nipple. Impulse of heart powerful; dullness on percussion from above the third rib down to fully the sixth, and even below; external thoracic, and jugular, veins injected. Lower margin of the liver perceptible to the touch; dullness on percussion as far up as above the fifth rib. The color of the skin is greenish; her bowels irregular—sometimes costive, sometimes loose. The icterus, in this case, must be explained by the hyperæmia of the blood-vessels, not of the liver, but of the mucous membrane of the choledoch., etc., ducts, in a similar manner as those frequent cases of so-called gastro-intestinal icterus. Costiveness alternating with diarrhœa is a common symptom in cases of enlargement of the liver in which the circulation of the portal vein and its ramifications is disturbed. Treatment: Ferri, digitalis, ää., gr. vj.–viij., daily, in 3 doses. After a number of weeks, all the symptoms, with the exception of the dullness belonging to the enlargement of the heart, were decidedly less prominent; icterus disappeared; palpitations and dyspnœa decreased; she recovered her appetite, and gained strength. No. 131 was of a similar character, but without the prominent symptoms as in the preceding case. Particularly, there was no icterus, although great anæmia.

134. Catharine O'C., æt. 4 months. *Spina Bifida.* Patient was well developed; a little smaller than children of her age. No deformity whatsoever, particularly no talipes. Only the sensibility and mobility of the lower extremities somewhat less than normal. On the lumbar region was a tumor of about two inches and a half in diameter in each direction, which was elastic and compressible, and evidently contained liquid. By pressing on the tumor, a fissure through at least two of the vertebræ was perceived, while at the same time the child grew restless and commenced crying. The whole of the tumor, which was about two inches in height, was not covered with cutis, but its most prominent point, which was semi-transparent, had epidermis, and but a thin layer of cutis covering it. Here, evidently, the membranes of the spine were almost the only constituents of the sac in which the liquid (cerebro-spinal liquid) was contained. It was thought proper to resort to as mild an operative proceeding as possible, and therefore a thin silver wire was laid through it. During the operation a small quantity of cerebro-spinal liquid oozed out, the child meanwhile scarcely noticing what was going on. The oozing out of liquid continued slowly, and at no time was there enough leaving the sac so as to evacuate it entirely. There always probably remained from

four to six drachms of liquid in the sac. Nevertheless, the child was taken with convulsions the same evening, which continued until she was seen the following day. She then was pale; perspiration on her head; pupils a little dilated; not very active under the influence of light; large fontanel sunk, and not so large in circumference; sutures narrow, so as to give the impression that the bones had approximated each other; slight twitchings around her mouth; contraction of the flexor muscles of her hands and feet. Bowels costive, and urine scanty; pulse 120; respiration irregular and slow; sacral tumor not laterally collapsed, but the fissure perceptible. Handling the tumor did not aggravate the symptoms. It was impossible to gain any more particular knowledge of the exact nature of the contents of the sac, and especially of the ramification of nerves or medullar substance in its walls. This condition of things remained for a number of days, with the exception of the occasional occurrence of developed convulsive attacks, which again would be replaced by apparent quiet, at which time the child would sometimes take notice of what passed around her, and take a little food. The child died on the seventh day after puncture had been performed, the head growing as it were smaller and more solid from day to day; the pulse increasing in frequency during the last two days, and getting irregular at last, and respiration growing more irregular and slower than before. A post-mortem examination was not permitted.

135. Gerard S., æt. 6 years. *Luxatio Femoris.* The boy was presented but once in my absence. He had fallen sixteen months ago, and had been walking lame ever since. On the records I find a notice, that Prof. Bradley, who conducted that clinic and referred the case to my subsequent examination, suspected it to be one of luxation of the caput femoris into the sciatic notch.

136. James R., æt. 9 years. *Hæmorrhagia in Musculo Sterno-cleido-mastoideo.* Patient was looking around and upward after his kite, when he lost the power of turning to the other, left side. Slight swelling in the middle part of the right sterno-cleido-mastoid muscle, with very little pain on pressure. Treatment: Iodid. potassii, ʒij.; glycerin., ℥ss.; liniment volat., ℥ss. M. D. S.: for external use.

137. Francis I., æt. 9 years. *Contractura ex Abscessu.* Patient had a large abscess three months ago, above the left scapula, and to the left of the vertebral column. It took several weeks to form and to break. Since that, he has been unable to move freely to either side, or to easily bend his head. There is a slight drawing in of the skin over the affected part, the layer of cellular tissue having disappear-

ed entirely, or being very thin. Skin not movable over the subjacent tissue. Induration of the whole region. There is evidently still exudation in and around the muscles. Treatment: Both passive and active exercise, and ℞.—Iodid. potassii, ʒij.; glycerin., ℥ss.; linim. volatil., ℥j. M. D. S.. for external use.

138. Mary I. Th., æt. 10 months. *Myositis.* Middle third of the right thigh very much swollen and painful, the limb a little inflected. Skin very little affected, and movable over the larger part of the swelling. A small opening permits the sound to enter for about an inch, and a little pus to escape. Suppuration appears to be local only, and external absorbents tried. ℞.—Iodid. potassii, ʒij.; glycerin., ℥ss. A fortnight after, the size and sensitiveness of the tumor the same; incision not permitted. Patient sent off.

139. Daniel F., æt. 4 years, 6 months. *Panaritium Subcutaneum.* The fourth toe considerably swelled and sensitive, both spontaneously and on pressure. Skin normal. Treatment, (by Prof. Bradley:) Tinct. iodin., externally.

140. William S., æt. 1 year, 4 months. *Panaritium.* The last phalanx of the right thumb much inflamed and swelled. All the tissues participate in the process. Treatment: Incision, to be followed by a solution of sugar of lead with opium.

141. William S., æt. 1 year. *Erythema Regionis Inguinalis et Scroti.* Inguinal region and scrotum erythematous, from urine, fæces, and coarse diapers. Treatment: Cold water.

142. James W., æt. 2 years, 6 months. *Talipes Varus Paralyticus.* Patient had a severe attack of convulsions when nine months old, which resulted in paralysis of both lower extremities. His right leg was soon restored again to normal action, while his left leg was partially paralyzed for a considerable time longer. The same occurrence then took place which we frequently meet with in cases of incomplete paralysis, viz., the flexor muscles overcame by their action the power of the extensors. Thus, the muscles depending on the anterior tibial nerve are still paralyzed, while the power of the posterior tibial is proportionally not much injured. Thus the club-foot in this case, with its slow development, and based on a previous disease of the nervous centre, is the result of paralysis. Treatment recommended: Faradization of the extensor muscles for some time, and tenotomy.

143. Albert B., æt. 7 years. *Talipes Equinus. Talipes Varus.* The former is on the right extremity, and has been the result of the boy walking on his toes for a long time, in consequence of his heel being sore. It is a mild case, as produced by bad habit only. The

other deformity is quite a counterpart to 142. Patient suffered from convulsions when six months old, was late in walking, and has always dragged his left foot. Moreover, the whole left inferior extremity is less developed than the right. The deformity, accordingly, has been observed to come on gradually, depending, as it is, on a disproportion between the nerve-power of the extensor and flexor muscles. Treatment recommended like that in the preceding case, with the addition of ℞.—Nitrat. strych., gr. j.; spirit. vini, ℥ss. D. S.: Ten drops, twice a day.

144. Walter H., æt. 8 months. *Catarrhus Meatus Auditorii Externi.*

145. Rosanna M., æt. 8 years. *Catarrhus Meatus Auditorii Externi.*

146. Mary M., æt. 9 years. *Otitis Interna. Deafness.*

No. 144 is a simple case of otorrhœa, as commonly seen in early infantile life. Patient has no teeth as yet, but his gums are swelled, the mucous membrane of his mouth and pharynx injected; his scalp shows the first beginning of eczematous eruptions, and the glands of the neck are swelled. Prognosis favorable. Treatment: Four daily injections (simple water injections preceding) of a solution of sulphat. zinci, gr. vj., in aq. ℥j. No. 145 had scarlatina four years ago, and has been suffering from otorrhœa since. Unexpectedly, the affection is localized in the external ear only. Tympanum is healthy, throat not affected, and no symptom of the internal ear having ever been affected. Hearing not impaired. The long duration of the complaint cannot be explained, except by its having been utterly neglected, the discharge acting over and over again as a new irritation. Treatment: Sulphat. zinci, gr. xxiv.; aq., ℥iv. M. D. S.: For external use. No. 146 is a case also depending on scarlatina, from which patient suffered three years ago. Hearing is very defective in the left ear; tympanum is gone, and the discharge, sometimes bloody, is seen to come from the internal ear. Prognosis highly unfavorable as to the recovery of hearing. Treatment: Mild solutions of tannic acid; to begin with, gr. iij. to water ℥j.

147. Isabella G., æt. 1 year, 2 months. *Stomatitis. Pharyngitis.* Mouth and pharynx injected; mucous membrane swelled; uvula and tonsils tumefied. From this cause the child has pain in swallowing, and a short cough, especially when in supine position. Fever moderate. Treatment: ℞.—Chlorat. sodæ, ʒiij.; aq., ℥v. M. D. S.: A tea-spoonful every two hours. This will be a good solution, the chlo-

rate of soda being, at a medium temperature, soluble in three or four parts of water, while the salt of potassa requires sixteen.

148. Catharine W., æt. 1 year. *Catarrhus Intestinalis*, from an unknown cause. ℞.—Subnitrat. bismuth, gr. vj.; cret. præpar., ℨss. M. f. pulv., div. in p. æq., No. xii. D. S.: A powder every two hours.

149. S., male infant, æt. 39 hours. *Defective Development of the Intestines.* The history of the case was given by the attendants in the following manner: The child had no evacuation of the bowels for the first twelve hours after birth. A medical man was called in, who removed some obstruction by means of his fingers from the anus, and gave an injection, whereon a string-like, hard, solid, whitish mass was removed through the anus. The child then was declared to be all right, and left. Nevertheless, no regular passage was had, but the patient evacuated a mass like that described, but less in quantity, several times. He commenced vomiting, however, bringing up a black substance, which was afterwards changed into a brownish or even yellowish-gray mass by the addition of milk, which the child would readily take from the breast. When the infant was presented he still looked well-developed; no deformity perceptible on any part of the body. Exhaustion began to show itself, from the somewhat collapsed face and the sunken fontanel. Abdomen not much inflated; only across it, below the liver, and a little downward to the left, an intestine was both seen and felt. It was inflated with gas, which appeared to be unable to escape. The rectum was very narrow, but could be explored to the length of the first finger, and no perfect impermeability found. The fæces removed last were pretty greenish, solid, about a fifth of an inch in diameter, and completely formed. Having no other means of diagnosis ready, the case was declared to be one of stricture of the intestine, somewhere between the colon transversum and rectum. The last evacuation, however, was submitted to a microscopical examination, and found to contain a uniform mass of cells, of middle size, with nuclei and some nucleoli. No fat, nor hair, nor cholesterine, nor large epithelial scales; thus the evacuation was set down as intestinal mucus only. On the next day the substance thrown up from the stomach was submitted to a microscopical examination, and found to contain, besides milk, some crystals of cholesterine and a large number of large epithelial scales. The case was then put down as one of complete impermeability of the intestine, as there were constituents of meconium above, but not below, a certain point.

The elements of meconium were not sufficiently known before the year 1858, when Prof. Förster, of Gottingen, submitted it to a very careful examination. The principal results of his investigations are these: that it does not consist, as it was formerly believed to do, of bile, and of the mucous and epithelial cells of the intestines, but mainly of vernix caseosa and the pigmentous matter of the bile. In their largest part, both vernix caseosa and meconium contain obdurated pavement epithelium; but the former has no coloring matter, and the latter less fat. Besides the constituents mentioned already, there is in the meconium hair from the surface of the body just like that found, sometimes even without a microscope, in the vernix. Stomach and intestines have no pavement, but cylindrical epithelium only; nor are hard and large scales, like those of meconium, found on the mucous membranes of the mouth and œsophagus. The fat contained in the meconium takes its origin from the general surface; cholesterine, which is found in meconium, has probably been a part of the bile. Thus we may safely conclude that the principal part of meconium is vernix caseosa, which has been swallowed. Its water is rapidly absorbed, and partially excreted by the kidneys. Perhaps some part of the fat, also, is absorbed, by the follicular glands of the small intestines. Thus, there is a singular transformation of matter in fœtal life, the fœtus swallowing the excretion of his surface, and again assimilating perhaps part of what had been removed. As yet, the contents of the fœtal intestines have not been submitted to a sufficient number of examinations to admit of a comparative estimation of the constituents as to the relative age of the fœtus. Acephali have no meconium; formerly, this fact was attributed to the absence of bile, in consequence of absence of liver; but this malformation would account for the absence of coloring matter and cholesterine only.

Patient died with the symptoms of exhaustion, when seventy-two hours old. Post-mortem examination was made nine hours after death, but abdominal cavity only opened. Rectum very narrow, as described above. Above, the colon appeared only about a fifth of an inch in diameter, but could be inflated up to the vermiform process; no air would pass the valve. A tube was then introduced through a small opening above the ileo-cœcal valve, and inflation attempted from above downward; but no air would pass the valve, thus showing a perfect impermeability. The whole colon and rectum have a length of about fifteen inches. Stomach is normal; perhaps a little larger than usual. Duodenum and upper part of the intestine, to a length of about fourteen inches, are very much dilated, and terminate in a very large *cul-de-sac;* no opening being found into the remaining part of the intestine, which all of a sudden became of a decidedly diminutive size, of perhaps a fifth of an inch in diameter. This is the size of the intestine all through its length down to the valve, with the following exceptions. As stated, there is no connection whatever between the dilated upper portion of the intestinal canal and the suddenly contracted part, both of them ending in a *cul-de-sac*. Below this, about two inches from this first impermeability, the coarctated intestine again ends in a *cul-de-sac*, after which, to a distance of eight lines, no intestinal cylinder whatever is found, the mesentery hanging free in the abdominal cavity. Then, again, a small intestinal cylinder, of nine or ten lines in length, is found closed on either end. Again, the mesentery without its intestinal appendix for about eight or nine lines. Again, an intestinal cylinder of the same length. Again, absence of intestine for a similar distance. A third intestinal cylinder of the same length, closed on either end, follows this; and again, at last, free mesentery for about half an inch. Then, finally, the intestine fairly begins again, uninterrupted in its lumen, and unchanged as to its diameter of about a fifth of an inch, and measures, down to the ileo-cœcal valve, twenty-two inches. Thus, the whole length of the intestine, including, altogether, two inches of mesentery not accompanied with intestine, is about four feet and a half, exhibiting in its course, besides the dilatation of the upper portion, a nearly equal coarctation of the lumen, the colon being a little larger than the rest, and the rectum not so narrow as the colon itself, two perfect impermeabilities; and beyond these four total interruptions of the course of the intestinal canal, the free intervals being, in the average, eight or nine lines in length.

Liver, spleen, kidneys, and bladder perfectly normal. Both of the kidneys contain beautiful specimens of the so-called uric infarcts.

Cases like the above are more than merely rare. Perhaps there is only one, if any, on record, in which there was, as it were, such a systematical anomaly; the only case that may be compared with that given above being described by Küttner, of Dresden. In his case, the jejunum ended in a *cul-de-sac;* then there was a piece of intestine, of three inches in length, ending in a *cul-de-sac* on either side; further, a second of the same description; finally, a third one, five inches long. Then, at last, the colon, commencing with a *cul-de-sac* above, and ending in a normal anus. Cases of simple interruption of the lumen, complete atresia, on a single locality, are even quite rare, (except in the rectum;) the anomalies found by Küttner, and in the above reported case, stand alone as extraordinary instances of imperfect development

150. Adolphus F., æt. 11 years. *Inflectio Radii.* Patient suffered from a fall two weeks ago. The fracture of the left radius was contracted in about the middle of its shaft. Very little care was given to it, and the bone healed in an obtuse angle of about 150°. Union had taken place when presented, the callus being large and massive. Treatment: Radius fractured, under chloroform, and splint.*

(To be continued.)

Transactions of the Medical Society of the County of Kings:

REGULAR MEETING, SEPTEMBER, 1860.

Enlarged Ovary prolapsed into the Recto-Vaginal Cul-de-Sac, and obstructing Labor—Rupture of the Uterus. By Dr. J. C. Hutchison.

Dr. H. presented the specimens, with the following history: On the afternoon of September 15th, he was requested by Dr. Frankum to visit with him a German woman, thirty-five years of age, who was in labor with her second child; the first having been born, after a natural labor, six years before. The pains commenced at 4 p. m. on the previous day. Dr. Frankum saw her first on the 15th, at 7 a. m. He found the os uteri tolerably well dilated, the bag of waters protruding, the vertex presenting, and the pains quite severe. He also detected a tumor between the rectum and vagina. Dr. Hutchison was called in the afternoon, and on making a vaginal examination, detected the tumor, which appeared to be about the size and shape of the half of a large apple. It could not be moved on account of the pressure of the head from above, and during the pains, which were quite severe, the head was fixed firmly against it. Her pulse was 90, and regular; vertex at superior strait in first position. As she was restless and desirous to sleep, was ordered full opiate. Dr. H. saw her again at 12 m. on the following day, and found the os uteri well dilated; the pains were severe, but the head still pressed against the tumor, and had not advanced at all. He now applied the forceps, and after prolonged traction, was unable to move the head downward. At 3 p. m. Drs. Isaacs, Mason and Mitchel were added to the consultation. The pains had now nearly subsided; pulse 100; sounds of fœtal heart easily recognized. The Cæsarean section was proposed, but was overruled, and after mature consideration, it was decided to bring her under the influence of chloroform as soon as uterine action became more decided, and apply the forceps. At 5.30 p. m. vomiting commenced; the skin became cold, and she complained of great prostration; the pains had not returned. At 9 P. M. she was pulseless at the wrist, and had severe pain in the umbilical region. On vaginal examination, Dr. Frankum found that the head had receded; he could barely touch the scalp with the tip of his finger. She died seven hours subsequently.

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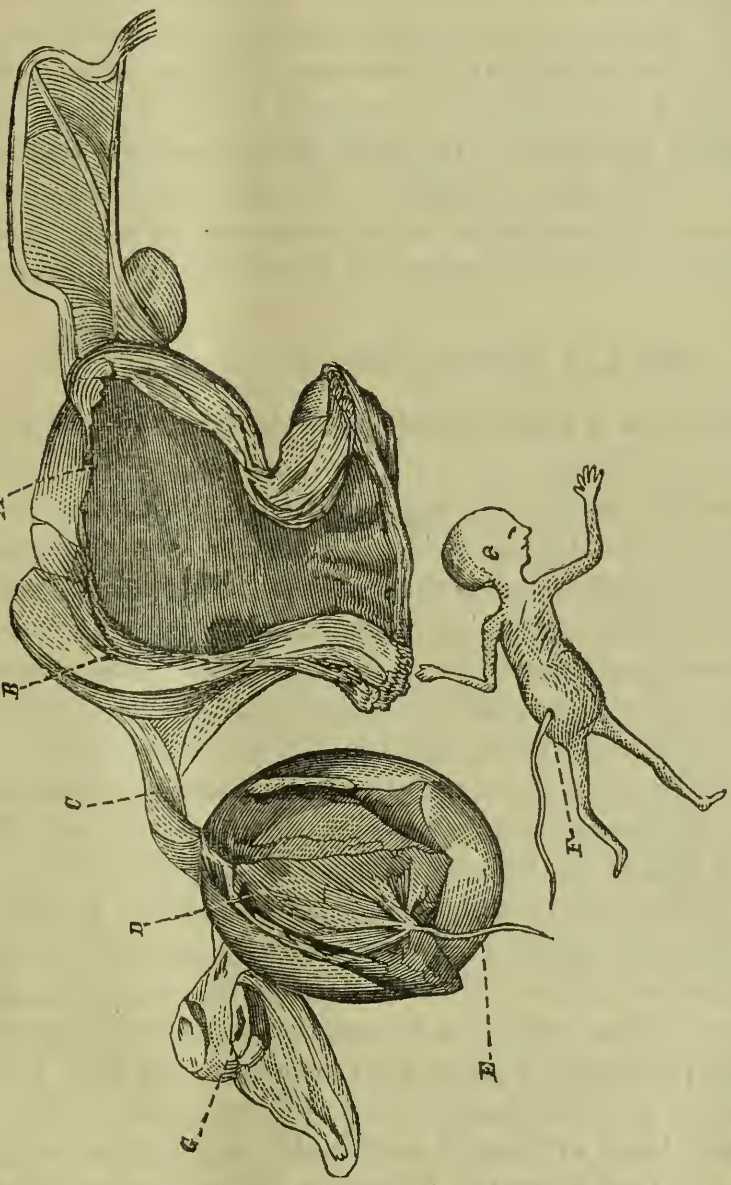
* In former part of this report, read, *passim*, Sulph. quin., for Sulph. cinch.

A post-mortem examination was made about eight hours after death. Present, Drs. Isaacs, Mason, Mitchel, Hutchison, Frankum, and others. The child was found in the abdominal cavity on the right side of the uterus, and the placenta on the opposite side. The uterus was firmly contracted. On examining the specimen, it will be seen that there is a rupture of the anterior portion of the neck of the uterus, extending into the vagina. The tumor was found to be the right ovary, which had become enlarged, and had fallen into the *cul-de-sac*, between the rectum and vagina. It contained bone, hair, and a soft solid, resembling stearine in appearance. A bony tumor projected posteriorly from the body of the pubis to the distance of three-fourths of an inch. All the pelvic diameters were diminished, and, according to Dr. Isaacs, who assisted in the examination, it had very much the appearance of a male pelvis. Dr. H. thinks this would have been a proper case for hysterotomy.

DR. J. C. HUTCHISON *presented a Specimen of Fallopian Pregnancy—Death at Third Month from Hæmorrhage, caused by Rupture of the Tube, with the following History:*

On the 18th of March, 1858, I was requested by Dr. H. Teller, of this city, to visit in consultation with him, Mrs. K., a married lady, 22 years of age, and the mother of three children. I learned that at 5 P. M. on the day before, Mrs. K. was suddenly seized, while walking across the floor, with severe pain in the uterine region, attended with a feeling of faintness, which caused her to fall. Dr. T. saw her soon afterwards, and found her in a fainting condition, with a cool and pallid skin, vomiting occasionally, but complaining of no particular pain. She supposed herself three months advanced in pregnancy; had observed no peculiar symptoms; no lateral enlargement. She remained in the condition above mentioned during the night, occasionally rallying somewhat, and when I saw her, at 8 A. M. on the following morning, she was pulseless at the wrist; lips blanched; surface cool; some tenderness on pressure over lower portion of abdomen. Being unable to refer the symptoms to any other cause, we came to the conclusion that an extra-uterine pregnancy existed, that a rupture had taken place, and the patient was now dying with internal hæmorrhage as a consequence. Death took place about half an hour after I saw her.



A, Cavity of Uterus, showing decidua. *B*, Decidua laid over cut surface of Uterus. *C*, Right Tube, twisted on its Axis, to bring the situation of the Ovum into view. *D*, Placenta in situ. *E*, Cord, separated in removing Fœtus from Abdominal Cavity. *F*, Fœtus. *G*, Corpus Luteum of Right Ovary, laid open.

Autopsy, seven hours *post-mortem*. On opening the abdomen, about one quart of coagulated blood was seen among the intestines in the pelvic region, in the midst of which, after it was removed, we found a fœtus of about the third month, with a portion of the cord attached, that had been broken from the placenta in removing the clots. A rupture was now observed in the right Fallopian tube, about its middle posteriorly, through which the fœtus had escaped into the abdominal cavity; the placenta still remaining in the tube, the cord hanging through the opening. When the uterus was laid open, the cavity of its body was found to be lined with a deciduous membrane, and the canal of the cervix filled with bloody mucus. It was considerably enlarged, and its parietes were somewhat augmented in thickness, the ruptured opening in the tube having been enlarged by an incision; the placenta was found of normal size, its maternal surface closely adherent to the walls of the tube, the villi of the chorion, and also the umbilical vesicle, being distinctly recognized. The fœtus was plump, with a rosy integument. The condition of the uterus and its appendages is very well shown in the plate, somewhat less in size than the specimen.

REGULAR MEETING, OCTOBER, 1860.

Bright's Disease in a Child Twenty Months Old. By DR. WM. HEUSER.

Anna Meyer, 20 months old, was born of healthy parents, as a remarkably strong and healthy child. I knew her from this early period, the mother being taken with puerperal endometritis of great severity and long duration, during which the child had to suffer a great deal from imperfect nutrition and want of care. The mother, however, after recovery, was able to resume nursing, and the child was doing tolerably well till the latter part of the winter, when she was afflicted with whooping-cough, in consequence of which she entered upon the summer in a rather weak state of health, and fell very soon in a kind of protracted diarrhœa and frequent gastric derangements. These disturbances, however, did not reach a degree that medical help was called for, and were ascribed merely to the influence of the season. She was weaned three months ago, having at that time already eleven teeth, and her appetite in general being uncommonly good; she kept in pretty good condition until July, when the family, having hitherto occupied the second story, removed into a basement, which bears evidence of considerable moisture and dampness. From this time a marked decline in the child's health took place; she had several attacks of violent diarrhœa, alternating with constipation, and in spite of the continuance of a pretty good appetite, the child got a more and more pale and sickly appearance. She never had any exanthematous disease, except prickly heat in a moderate degree.

On the 5th of August the child became worse; diarrhœa increased; appetite impaired; feverish in the night; cross and ill-humored during the day; which symptoms continued till the 17th, when the mother was first aware that the child had not passed any water during the last twenty-four hours. Until that time no disturbances in this function had been noticed; no pain nor distress of any kind being observable, the child, on the contrary, appearing on that day a little better, and resuming eating. Some domestic medicines were resorted to, which proving unsuccessful, a physician was consulted, who prescribed a remedy containing turpentine. This was used the following day, but did not produce the least discharge of urine.

On Sunday, the 19th, I saw the patient, with the following symptoms: No excretion of urine; no pain; no distress; no conamina to pass it. Abdomen pretty much distended, chiefly in both the hypochondria, giving on percussion all over a tympanitic sound, even in the region of the bladder, which did not appear to be distended, and could be pressed upon and handled without causing the least sign of pain. The region of the kidneys remarkably full; painful on pressure; the dull sound of percussion decidedly extended beyond normal; slight œdematous swelling all over the skin, chiefly in the face, around the eyes, and on the lower part of the back; skin dry and very pale; cheeks and lips red, showing a kind of brick-red color. Temperature in general diminished, except the hands, which were rather hot on the points of the fingers, and together with a frequent and irritated pulse, proved some feverish reaction. Tongue slightly coated; no signs of teething on the gums; appetite tolerably good; the child was just eating a piece of bread; bowels moderately loose. Sleep in the night pretty good; the child, although a little cross, occasionally played during the day, and in general did not behave like a very sick child; now and then a little cough, but no other symptoms from the organs of the chest.

I considered the case as one of Bright's disease of kidneys, and ordered removal from the basement, warm baths, wrapping in flannel, kal. acetic. with sem. lycopod. in emulsione; calomel, gr. ½ every four hours; diuretic ointment and flax-seed tea for a drink.

On the 21st, in the morning, the child had passed a small quantity of urine, fifteen to twenty drops, as the mother states, without any pain or straining. The pain in the region of the kidneys, upon pressure, was increased, also the anasarca. There was a diffuse fluctuation in the abdomen, but indistinctly perceptible, on account of the great flatulence. The child was brought to the Long Island College Hospital, where the catheter was applied by Dr. Chapman and myself, but no urine was found in the bladder.

Prescription: Two leeches over the kidneys; cremor tartaris, with diuretic tea; calomel continued, in $\frac{1}{4}$ gr. doses.

August 22d.—The child had bled freely from the leeches; the blood appeared very pale and watery. She was worse in every respect, and considerably weakened. Anasarca increased; skin very pale, and perfectly waxy; no urine. I placed a piece of lint between the labia, in order to discover any escape of water that might take place, without being noticed. Calomel omitted; treatment continued; nourishing diet.

August 24th.—No change in the leading symptoms; total suppression of urine; strength somewhat recovered; for some hours a free perspiration.

Prescription: Tinct. cantharid., gutt. i., every three hours; injections with turpentine.

August 26th.—In general, the same state. One copious fluid passage, with a strong smell of urine. The piece of lint between the labia had remained perfectly dry. Anasarca rather decreased; no nausea, no vomiting; not the least tendency to coma; stomach less distended; the child had frequently passed wind; some feverish reaction continued, without a decided character. The same treatment.

August 28th.—No urine, no coma. The child is fully sensible, expressing her wants by talking and calling her attendants. Nausea and inclination to vomit. No evacuation of the bowels since yesterday. Short and heavy breathing, frequent sighing, but no signs of effusion in the chest. The cantharides discontinued; in their place, infus. rhei, with bicarbonate of soda.

August 29th.—The child had during the night several dark-yellowish passages, with great relief; towards morning she slept comfortably. Breathing much easier; stomach soft, and pain less; some appetite; anasarca in the face less; kidneys still sensitive upon pressure. Pulse 100. She is in a somewhat dozing condition, but fully sensible; the least thing arouses her for some minutes; she will not allow her mother to leave the bedside. Some fluid stools, with tenesmus. No urine. Treatment continued.

August 30th.—Since yesterday evening the child is much worse; restless during night; constantly moaning; very feverish. This morning pulse 140, tongue dry, lips parched, some cough, short and heavy breathing, some dullness on percussion on both sides of the chest. In the afternoon, Dr. Mason saw the child in the same condition. Quinine was ordered, and counter-irritation over the kidneys.

August 31st.—The child very low, but fully sensible; she would not allow herself to be touched or examined without expressing her increased discomfort by crying, calling for her mamma, etc. Pulse and respiration indicating the beginning agony. At 12 o'clock in the night she had passed a few drops of urine, which were discovered on the lint, and towards morning she had, under considerable straining, another discharge of about 1½ oz. of urine, which, unfortunately, was mixed up with a copious evacuation from the bowels, which she had a short time previous. The urine separated from the fæcal matter, on careful examination, did not contain any albumen. Under the microscope, it was found to contain blood-globules, but none of the usual fibrinous epithelial or fatty casts. At 10 o'clock the child died, in my own and Dr. Chapman's presence, under the symptoms of gradually abolished vitality. A few moments before she looked around, with an expression which gave evidence that not even then her consciousness had entirely left her. No spasm nor convulsion was to be observed.

The post-mortem examination was made by Dr. Chapman and myself thirty-six hours after death. The little dead body was not much emaciated, and presented the same waxy appearance as during life.

On opening the abdominal cavity, we found the intestines distended with gas, very anæmic, but otherwise healthy; the liver natural in size and appearance; the peritoneum healthy; in its cavity about four ounces of a colorless serum. The bladder was quite empty. The *right* kidney was considerably enlarged and lobulated, the tunica propria easily separated. The whole kidney was of a dark-brown reddish color, intermixed with paler gray-yellowish spots. All around its convexity a number of smaller and larger dark-black and livid spots were observed, evidently coming from little extravasations of blood, and giving this portion of the surface quite a variegated appearance. On section, a dark smeary blood profusely issued from every point, which seemed to undergo a kind of glutinous coagulation in contact with the air. When it was wiped off, the cortical substance appeared congested, of a reddish color, with white yellowish spots diversified, which gave it a somewhat granulated appearance; the malpighian bodies were filled with blood, and presented a dark-red and really purplish color.

The *left* kidney was very different in size from the right one, and much below the normal standard. It presented, even before it was disturbed from its natural position, a strong yellowish hue, all the surrounding tissues being infiltrated with fat. On section, the whole kidney presented a more or less homogeneous mass, of a whitish-yellow color, the demarcation between both the substances being so ill-defined, that indeed nothing was left of the structural peculiarities. The pelvis renalis contained a small quantity of a pale-red glutinous fluid, which had not the least smell of urine.

The chest, now opened, was found to contain in both sides clear serum, in nearly equal proportions, amounting to about four ounces in all. The lungs were healthy, except a crude tubercular mass of about an inch in diameter, in the upper lobe of the right lung. Heart and pericardium were normal; in the latter a trivial amount of serum was effused.

Under the microscope, it was proved that the fatty degeneration which had reached so high a degree in the left kidney had also commenced in the right one, wherever the whitish and yellowish discoloring had taken place.

Remarks.—With reference to the nature and extent of the morbid changes in the kidneys, which the post-mortem examination has revealed in our case, I consider the diagnosis of Bright's disease fully established. The autopsy, however, for itself, presents nothing of particular interest, the affected organs showing none but the customary changes in the second and third stages of this disease. I therefore entered into the description of them only so far as the diagnosis was concerned. But, as to the course the disease took in this case, the symptoms attending it, and its final termination, some striking peculiarities are offered, about which I would like very much to hear the opinion of the Society. First—What has brought on this disease in so young an infant? Was it the whooping-cough that caused the first hyperæmia in the kidneys, or had the prickly heat anything to do with it? Or was it merely the influence of the cold and the dampness of the basement to which the child had been subjected since the 1st of July? In this latter respect, I might say that the mere aspect of the left kidney, which is entirely degenerated into a fatty mass, must give the conviction, that the disease was of an earlier date and of longer standing than at the period mentioned. For, supposing the important changes in question to be the result of a sudden acute and flagrant disease, how could this fail to produce during life such symptoms as to attract the attention of the parents, whom I know to be careful and intelligent people, who would not have allowed their only child to suffer with anything like real disease, without caring for medical advice? It therefore appears very probable that the disease began in the left kidney a long time, perhaps many months ago, and taking a chronic and insidious course, arrived finally at the entire degeneration of this organ; while the *right* kidney, remaining all this time in a state of comparative integrity, kept up its functions, and prevented by this way the development of more serious secondary disturbances, and more characteristic symptoms. The frequent attacks of diarrhœa alternating with constipation, of which mention is made in the history of the case, represent all the symptoms that so far came under observation. Perhaps the *left* kidney was already entirely out of function when the family moved into that unhealthy basement, by which new and detrimental influence the *right* kidney, predisposed and slightly affected as it probably was, was drawn suddenly into an acute and destructive process of disease, which led so soon to a perfect suppression of urine, and at the same time, to the hydræmic condition of the blood. Hydræmia, there can be no doubt, caused death in our case by its natural consequence, the gradual abolition of vitality. But how it happened that, by a total suppression of urine of so long duration, an uræmic intoxication was not produced, at least not in such a degree that the corresponding symptoms in the nervous system, as coma or convulsion occurred, appears hardly explainable, and is somewhat inconsistent with the ordinary views on uræmia and its natural development. Frerichs, the most distinguished writer on this subject, pronounces death by uræmia the natural termination of Bright's disease, and explains the fact that not more than one-third of deaths are really caused by it, by referring to the frequency of complications which destroy life, before uræmia has time and chance for its development. But this exception does not apply to our case, where every opportunity was afforded, as far as time and absence of complications are concerned. What prevented the uræmia in this case? Was it the age of the patient? From analogous experience, the answer to this question is rather difficult, for, although Bright's disease has been sometimes observed in much younger children, the observations appear to be very scarce, and differ in their main features so much from this case, that they do not admit of any available comparison.

Some of them were attached to scarlet fever, others to organic diseases, one to a scalding, and most of them were marked with uræmia. I, myself, have seen an idiopathic disease of the kidneys in a little boy one year old, where death was preceded by coma and convulsions. Have the watery evacuations from the bowels, one of which actually had a strong smell of urine, acted vicariously in our case, and freed the blood from the urea? I am very sorry that I had not the opportunity to subject them to a reliable chemical analysis.

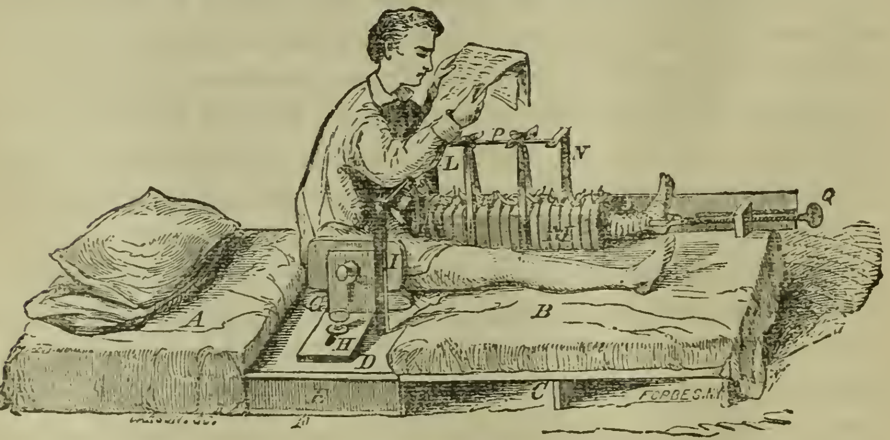
But I fear to weary you by any more hypothetical remarks; allow me, however, to call your attention once more to the main symptom of this case, which seems to exceed everything on record. I mean the total suppression of urine, which lasted for full fifteen days, interrupted only on the fifth day, by a discharge of a few drops of urine.

As to the reliability of the observation, there can be no doubt, in spite of its general difficulty in so young a child. I refer in this respect to the precaution taken by myself in placing a piece of lint between the labia, which, frequently examined, was always found in its place, and perfectly dry; and further, to the fact that besides the mother, two other quite competent members of the family were day and night in attendance, waiting with painful anxiety for a drop of urine, as the only sign of relief for the poor child from its unnatural, and therefore alarming, condition. I feel confident that the distinguished professional gentlemen whom I introduced to the case agree with me in declaring it fully authentic. Without, however, setting it up for a medical curiosity, the case seemed to deserve a record, the more because it is in accordance with other recent observations, by which the doctrine of suppression of urine and uræmia is more or less affected.

As to the treatment pursued, I protest against criticism, our attention being fully absorbed by the desire to overcome the principal symptom, or, as a friend yesterday remarked, to make water for the child.

REGULAR MEETING, NOVEMBER, 1860.

Fracture-Bed. By Dr. J. H. HOBART BURGE.



Mr. President and Gentlemen—The apparatus which I now proceed to exhibit was devised especially to answer the indications of extension and counter-extension, in cases of fractured femur. It was the result of many months' study and of almost numberless experiments, in all of which my brother, Dr. Wm. J. Burge, now of Taunton, Mass., took an equal part with myself. The apparatus is so very simple in its construction that it requires no description whatever. You see every part at a glance, and each part explains itself to every practical surgeon better than words could do it.

I shall therefore not detain you, except in brief terms, to state our objections to the very first apparatus ever used, before the introduction of this. I allude to the long, straight splint of Desault, modified by Physick, Buck, and others. These objections are,

1st. That the counter-extending pressure falls heavily upon the groin, (a most sensitive part,) causing much pain to the patient and also anxiety to the surgeon, on account of the liability to excoriation and sloughing, and the consequent necessity of moving the perineal strap to the other groin, and perhaps of removing it altogether, in which case a permanently shortened limb is the almost inevitable result.

2d. The strap around the waist, which, though it be not tight enough to impede respiration, is a great restraint, and to one of nervous temperament almost insupportable. The patient must swallow both food and drink while in an absolutely supine position, and can perform no voluntary motion of the trunk whatever. Indeed, in a fracture of both thighs, this confinement becomes a truly serious evil.

3d. That the hips of the patient sink in the bed, and are very liable to move away from the splint, and thus throw the limb out of the proper line.

A simple inspection of the apparatus now before you will at least convince you that *it* is liable to none of these objections. I desire, in the next place, to call your attention to the fact that the verdict of the profession has been given in favor of the straight position, in a large majority of cases. The venerable Mott, whose praise is in all the ranks of the sons of Esculapius, did indeed say, only three years ago, that if his femur should chance to be broken, he should prefer to have it treated on the double-inclined plane; but it should be recollected, in this connection, that he had had no practical experience of Crosby's Adhesive Plaster Extension, which renders the straight position so far preferable as to rob controversy upon the subject of all interest. Again, you will not fail to notice that in this apparatus no part of the body is confined, except the injured limb and the pelvis; and the latter not so absolutely but that the patient can, at any time, relieve an irksome position, while at the same time it is so secure as not to be liable to lateral motion, or to sink in bed. This freedom from unnecessary restraint—the patient being permitted to sit up *ad libitum*—is of itself a *life-preserving* and *limb-saving* feature of this apparatus.

The next advantage to be observed is, that no pressure falls upon the groin, but that the nates and tuberosities of the ischia, which are by nature especially fitted for pressure, are the parts subjected thereto. Lastly, the provision here made for relieving the bowels without disturbing the patient or his limb, has been found of great practical value. Having elsewhere called attention to numerous other cases of accident and disease in which this apparatus is found useful, I shall not descant further upon its advantages.

The details of seventeen cases treated therein have been published, and are within the reach of all. A larger number have since been treated, and will be made public so soon as I shall be able to collect and arrange the minutes. The results have been not only satisfactory, but highly gratifying to all parties.

I will at this time only ask your further indulgence while I read a brief report of three or four cases treated by members of this Society. The first, which, to connect it with the series already published, I shall call Case 18, occurred at the Brooklyn City Hospital, in the service of Professor Enos. Dr. A. D. Wilson, House-Surgeon, kindly transcribed for me the following record, remarking at the same time that the case was one of considerable interest, and should soon receive a fuller report. Dr. Wilson had never seen this apparatus in use, yet he applied it in the neatest manner, which fact I mention to show that a previous acquaintance therewith is not necessary to success.

Case.—James Thurston, æt. 45, unusually healthy, a moderate drinker, admitted July 5th, 1860, with compound fracture of left femur, at junction of middle and lower thirds, caused by getting limb caught between the spokes of his cart-wheel. The wound in soft parts, occasioned by protruding bone, was one inch and a half in length, jagged, and situated posteriorly. Profuse venous hæmorrhage, shortening one inch. Was put on the Burge apparatus, which allowed of free access to the wound, without in the least disturbing the limb or the patient. Just six weeks after the accident, apparatus was removed. Union of fragment firm; external wound all but closed, shortening one-half inch. Applied coaptation splints, and ordered rest in bed. Three weeks later, patient allowed to go about the wards on crutches. Has been able to sit up to his meals since the first two weeks after the accident; is now in perfect health.

Cases 19 and 20 I will give in the words of Dr. John A. Brady, of East District, as addressed to myself.

"John Understillen, aged about 35 years, German, while attempting to stop a runaway team, was thrown to the ground, and sustained an oblique fracture of the femur at about the middle of the shaft. When I first saw him, there was, by actual and careful measurement, three and three-quarter inches shortening. A few days after, with your assistance, I placed him on your apparatus. He was decidedly the meanest and most irritable man I ever had anything to do with, giving way every few minutes to frightful paroxysms of rage, tearing the dressings from the limb, and throwing them at his wife and children. He even tore off the wooden side-braces from your apparatus twice, and would have continued doing so had we not replaced them with iron. About the twentieth day, he tore off all the dressings, and when I reached him I found the limb three inches shorter than the other. The same afternoon, with your help, I put the fracture up again, and managed to get him well with three-fourths of an inch shortening. He is a policeman; does duty all the time; drills once a week; does not wear a high shoe; walks and runs as well as he ever did, and does not limp at all; as good a result as we could have had in so muscular and powerful a subject, under the most favorable circumstances. I attribute this wonderfully good result solely to the use of your apparatus. I have treated since for a physician of this place an oblique fracture of the upper third of the femur. The subject was a willful, impatient girl, 13 years of age. She has recovered, with no perceptible shortening. I have no hesitation in expressing the opinion that your apparatus is the best I know of for the treatment not only of fractures of the thigh, but of oblique, complicated, and compound fractures of the tibia.

The last case which I shall bring before you is one of compound comminuted fracture of the tibia and fibula, treated by O H. Smith, M.D., of Brooklyn, Eastern District, and concerning which he writes me as follows:

Mr. ———, aged 35 years, on the 8th of September, 1859, took a seat on a soda wagon for the purpose of riding home from the ferry. While seated on the front of the wagon, one of the horses kicked him, breaking his left leg just below the middle, producing a compound comminuted fracture of the tibia, and a transverse fracture of the fibula. He was brought to my office, and I applied a roller and temporary splints. The soft parts were much lacerated, and portions of broken bone were protruding through the flesh. At the end of eight days, and while there was still considerable inflammation around the crushed bone, and tumefaction of the soft parts, I put the patient on your fracture-bed, and applied gentle extension to the limb. My dressings or appliances by which I made extension were firm, adhesive straps, passing from each side of the ankle to the foot screw. On the following day, I made considerable extension by turning the screw, and brought down the limb to quite its natural length, and each succeeding day, for a week or more, I turned down the foot-screw sufficient to compensate for the natural stretching of the dressings, &c. At the end of four weeks there was no union or firmness of the tibia, while the fibula was pretty well united. At seven weeks the tibia looked still unpromising, the broken fragments remaining loose and irregular, while a sero-purulent discharge was issuing from the limb at the seat of fracture. At this period I applied a firm roller to the limb, leaving an opening for the discharge of pus, relaxed the whole extension, and depended upon the fibula to prevent shortening. In fourteen weeks from the accident the tibia had become quite firm, and the discharge of pus had subsided, when I applied a starch bandage to the limb, sent the patient into the open air on crutches, and he recovered rapidly. In five and a half months he went to New York and resumed his business. I have given you an extended history of this case, first, because, from the nature and extent of the injury, it was a difficult case to treat; second, because the result was highly satisfactory, there being no perceptible shortening; and lastly, because your apparatus performed its part so well in keeping up extension for so long a time, with so little discomfort to the patient. This last fact, in connection with the facility with which the patient can attend to the calls of nature, and the entire freedom with which the body can be flexed upon the pelvis, gives your instrument, in my opinion, a most valuable advantage over all other similar instruments now in use.

MONTHLY SUMMARY OF FOREIGN MEDICAL LITERATURE.

By Dr. L. Elsberg.

1. *On the Action of Chloroform upon the Blood.* By A. Ernest Sansom. (Archives of Medicine, No. VII., p. 170.)
2. *Cases of Purulent Deposit in the Urine.* By Dr. Alex. Lindsay. (Glasgow Medical Journal, April, 1861.)
3. *On the Certainty of Cure of Eczema.* By Prof. Hebra. (Wiener Spitalszeitung; Glasgow Medical Journal, April, 1861, p. 107.)

4. *A Case in which two ounces of the Wine of the Seeds of Colchicum were accidentally taken, and which relieved a Gouty Diathesis.* By Joseph Bullar, M.D. (Edinburgh Medical Journal, March, 1861.)
5. *On the Mode of Elimination of the Metal Manganese when employed Medicinally.* By Wm. Turner, M.B., etc. (Edinburgh Medical Journal, April, 1861.)
6. *On some of the Therapeutical Uses of Indian Hemp.* By J. Russel Reynolds, M.D. (Archives of Medicine, No. VII., p. 154.)
7. *On the Use of Alcoholic Stimulants in Hospital Medical Practice, with Illustrations from the Records of the Royal Infirmary of Edinburgh.* By W. T. Gairdner, M.D. (Edinburgh Medical Journal, May, 1861.)
8. *A Short Account of Two Fatal Cases of Heat Apoplexy which occurred in August last on board the Screw Steamer "Colombo," on her voyage from Suez to Aden.* By Robert Little, M.D. (Edinburgh Medical Journal, May, 1861.)
9. *On the Reparative Process in Human Tendons.* By William Adams, F.R.C.S. A Review. (Edinburgh Medical Journal, May, 1861.)
10. *On the Insufficient Development of the Stomach, and the Diagnosis thereof.* After Dr. G. Sons, by Dr. Floss. (Schmidt's Jahrbücher der In-und Ausländischen Gesammten Medicin, No. V., 1861. p. 194. Issued April 30, 1861.)
11. *Cure of Prolapsed Rectum by Subcutaneous Injection of Sulphate of Strychnia.* By Prof. Dolbean. (Bulletin de Thérapeutique, LIX., p. 538.)
12. *Description of a French Instrument for Effecting Reduction or Reposition of the Umbilical Frenis when Prolapsed, with Cases illustrative of its Successful Application.* By J. G. Wilson, M.D. (Glasgow Medical Journal, April, 1861.)

1. According to the author, the effect of the mingling of liquid chloroform with the blood is an almost total solution of the red corpuscles. Under the microscope, a nearly homogeneous yellow-tinted field presents itself, with here and there only the faint outline of a red blood-corpuscle. The white corpuscles, on the other hand, appear to have been uninfluenced. To trace the most subtle effect of feebler influences, M. Sansom used in these investigations frog's blood. Placing a little undiluted on a glass slide, he exposed it for only about two seconds to the vapor proceeding from an open bottle of chloroform at the ordinary temperature of the air; having covered the blood with a slip of thin glass, he examined it under the microscope, and, as the result of his examinations, he believes the progressive changes on the blood-corpuscle to be the following:

(1.) Corrugation of cell-wall; alteration of shape; coherence.
(2.) Solution of cell-wall.
(3.) Coalescence of cell contents.

To observe the effect of chloroformization on circulating blood, he exposed the web of a frog's foot on a frog-plate under the microscope, and then sprinkled a few drops of chloroform upon the damp cloth in which the frog was wrapped.

"The first change noticed in the circulation was an increase of its rapidity. In about twenty seconds the capillaries had dilated to nearly twice their normal size. Then the flow became slow, the corpuscles manifested the tendency to aggregate, and in some instances to assume that shape which chloroform promoted in them out of the body. These cohering blood corpuscles toiled along the capillaries in an interrupted current. More chloroform being given, the tendency to cohere became greater, the current slower. Ultimately, stasis of the blood occurred, (first in the larger vessels,) and death.

The most noticeable changes induced by chloroform on the circulating system are therefore:

1. Acceleration of the flow;
2. Dilatation of the capillaries and the blood-vessels;
3. Alteration in shape of blood-discs and tendency to cohere;
4. Stasis of the blood.

These facts have, I believe, a great influence on the theory of anæsthesia. That 'narcotism is suspended oxygenation' is a doctrine receiving every day greater confirmation. I believe that the action of chloroform is directly upon the blood-corpuscle; that thereby its capability of receiving oxygen is impaired, and its faculty of stimulating the various functions of life subdued; in other words, that the phenomena of chloroformization are due, not to the agency of a circulating poison, but to the influence of an altered blood."

2. Dr. Lindsay reports five interesting cases in which he found pus in the urine, apparently as a complication of gonorrhœa. The headings of his cases are: 1. Large Deposit of Pus in Urine, following Gonorrhœa; No Symptoms of Local Irritation; No Constitutional Disturbance. 2. Purulent Deposit in the Urine Supervening on Gonorrhœa; Severe Local Symptoms. 3. Severe Hypogastric Pain following a Sudden Suppression of a Gonorrhœal Discharge; Retention of Urine; Pus in Urine. 4. Gonorrhœa Pus in Urine on Cessation. 5. Pain in Left Iliac Region, extending over Bladder, and Paroxysmal in Character; Previous Gonorrhœa; Return of Symptoms of Pus in Urine.

The treatment uniformly curative, with one exception speedily, and in all cases safely, may be seen from the following extract from the report of the first case: "After clearing out the bowels, he was ordered to have one drachm of the bals. copaiva in mixture, night and morning after meals, to avoid all stimulating drinks, and to restrict himself to light diet." In some cases the balsam should be given in half-drachm doses. The first four of the above cases related to men; the subject of the last was a woman, whose husband had contracted gonorrhœa four months previously. "The discharge was so trifling that he thought there was little risk" of infecting his wife. In this last case Dr. L. "cautiously began administering the balsam of copaiva, beginning with doses of one-half drachm twice a day. With this was conjoined ten minims of aromatic spirits of ammonia, and an equal amount of tincture of hyoscyamus. Under this treatment she slowly improved, and in three weeks was free from all annoyance. Some months after the same symptoms returned. Similar treatment was employed, and they soon passed away. Up to date there has since been no return, and she is otherwise in good health."

As to the nature of the morbid change on which the symptoms depended, Dr. L. can offer no explanation. "Systematic writers do not seem to include, as incidental to gonorrhœa, complications similar to those described. It is true they may have been overlooked, yet equally certain that among the more recent writers they are not mentioned. This is the more curious, seeing that in my practice they have been met with more frequently than other affections of the urino-genital organs, that have received not only a special notice, but even a lengthened description. It is possible, however, that my experience may have been exceptional." In conclusion, Dr. L. remarks that pus alone, unmixed with mucus or any other inflammatory product, appears to him the guide for the employment of the remedy which in his hands, and also in those of others to whom he mentioned it for similar cases, were surprisingly successful.

3. One has the satisfaction, Professor Hebra observes in his clinical lecture, of knowing that we can always cure eczema, however long it may have continued, although in some inveterate cases depending upon a dyscrasis, or upon internal causes, there may be considerable difficulties in the way. As in most other diseases of the skin, the treatment should be purely local; internal measures being limited to the rare cases in which the eczema has been produced by a previously diseased condition of the economy, or when it is combined with some other affection. In the great bulk of cases internal means, such as mercury, antimony, iodine, purgatives, sarsaparilla, &c., are superfluous and mischievous. Arsenic is the only one of such means which exerts any influence in obstinate cases. Ordinarily, however, it is of no use, and its employment should be limited to the few cases which manifest es-

pecial obstinacy; the local treatment in these also not being at the same time neglected.

Cold water, in its various modes of application, is of great importance, combined with other means, in the treatment of eczema. Employed alone it is far too tedious, and frequently not sufficing in its operation. It only aggravates the malady when applied in *eczema simplex*, arising from excess in secretion, as *e. g.* in the axilla, between the buttocks, &c. Starch, whether alone, or mixed with oxide of zinc, (starch ʒj., zinc ℥iij.) is, on the other hand, an excellent application when the eczema arises from the friction of two cutaneous surfaces, or from excessive secretion, as in the axilla, under the breasts, the scrotum, buttocks, &c. Oxide of zinc (ʒj. to ℥j. of lard,) sulphate or acetate of zinc, alum (ʒj. to ℔j. of water,) red or white precipitate (6 to 12 grains to ʒij. of lard,) are of good service in acute eczema or in chronic, when there is but slight infiltration, and the disease prevails only over a limited extent. When, however, there is considerable infiltration in chronic eczema, these means do not suffice, and then the almost indispensable *schmierseife*,* by reason of its slightly caustic action, becomes the most preferable remedy. Its mode of employment varies according to the degree and extent of the eczema. When there is but slight infiltration, a rubbing with it once or twice a day is sufficient; but when the infiltration is more considerable, a more frequent application is necessary, and even epithems composed of it may be required. When we have thoroughly rubbed the skin with the soap, until excoriations and red points have been produced, the surface should be washed and cold applications laid on until next rubbing. This procedure must be continued as long as the moisture and itching and the infiltration of the skin continue, and until the frictions no longer give rise to heat and excoriations of the skin. The soap must then be replaced by cold applications, and the treatment terminated by the employment of tar.

In many chronic cases, with great infiltration, the soap does not suffice, and we must have recourse to a stronger form of potash, viz., caustic potash, one drachm dissolved in two drachms of water. A pencil of charpie is dipped in this and well rubbed into the diseased parts for some minutes. These are then washed, and cold applications are kept constantly employed. One or two such cauterizations usually suffice, and when more are necessary they should not be repeated oftener than once a week. Carefully applied, the caustic gives rise to no cicatrix, but the practitioner must himself always undertake its application. It is a very painful procedure, and is not often required. Cauterizing with strong acids is to be avoided, as it causes great pain and gives rise to scars. The application of the nitrate of silver is of no avail. *Tar* is in its way just as useful a remedy as the soap, the time for its application being when the moisture and itching have ceased, and exfoliation has commenced, *i. e.*, when *eczema squamosum* is present. It may be used either alone or mixed with equal parts of cod liver oil, and should be applied by means of a brush once or twice a day, carefully avoiding washing the parts or allowing water to come into contact with them. As long as any redness or desquamation continues, the tar must be repeated. Sometimes, when the application of the tar has been premature, moisture and itching are observed at certain spots, and the preliminary treatment has then to be resorted to again. Some individuals cannot bear the tar at all, it giving rise to severe inflammatory action. An ointment of acetate of lead or oxide of zinc should in such cases be substituted. *Cod-liver oil* is a valuable external application, and by its aid alone we are able to cure the eczema, when this has not lasted very long and the infiltration is not very considerable. It is also an excellent adjuvatory to the treatment by *schmierseife* and cold applications, as flannels soaked in the oil may be kept bound over the diseased parts during the night. Employed alone the treatment is very tedious, and is objectionable on account of the disagreeable smell and befouling the linen which it gives rise to. Taken internally it does not exert the slightest influence on eczema.

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* For an account of this "*schmierseife*," or *sapo viridis*, vide *Medical Times and Gazette*, 1860, vol. i., p. 224.

4. A man, whose father and grandfather had been gouty, who himself had had his first attack of gout at school, when 14 years old, and after going to India, and returning at the age of 25 years, suffered for 10 years severe attacks; got cured by taking two ounces of wine of colchicum-seeds, which his servant mistook and bought him for a black dose. The latter he afterwards took in two portions, about an hour and a half apart, but they produced no action on his bowels. He continued perfectly well, took a hearty breakfast at 12 o'clock, and not until 4 in the afternoon, while enjoying his accustomed drive, *i. e.*, seven hours after the accident, did he feel sick; then he had violent vomiting for eight hours, stopped at last after applying a liquid blister to the pit of the stomach. The next day, except being very nervous, he was quite well; and excepting (which is very rare and far between) occasional swelling of his foot—relieved on applying locally a little olive oil and leaving off stimulants at the time—he has

never suffered from gout since, being now 58 years of age, and 34 when this accident happened, and though he seems to have continued high living. Fatal poisoning has been reported from doses of one ounce, an ounce and a half, two ounces, five ounces, and eighteen ounces, and Dr. Bullar concludes that the patient's safety in this case "depended on his hereditary and strongly-marked gouty diathesis, giving him a toleration of colchicum; just as, in pneumonia, tartarized antimony can be taken in such doses as would poison the healthy; and in delirium tremens, poisonous quantities of opium and digitalis have been administered without loss of life. The power of the remedy seems to be spent in combating the diseased process." Sir Henry Holland's opinion that colchicum may be given so as to be *preventive* as well as *curative* in gout, is strengthened by this curious case.

5. Without denying the possibility of a partial elimination of manganese taking place by the liver, Mr. Turner shows that the kidneys freely eliminate the metal. He examined the urine of two persons laboring under diabetes, who had been taking for three weeks the permanganate of potash medicinally.

"Forty ounces of urine were evaporated in a water-bath, to the consistence of a thick syrup; to this aqua regia was added, and the mixture heated in a porcelain crucible, so as to burn off the organic matter; nitric acid was then added to the incinerated mass, and the mixture boiled for some time, and then filtered. The excess of acid in the filtrate was next nearly neutralized by the addition of carbonate of soda; and, on pouring into it a solution of sulphide of ammonium, a copious dark-colored precipitate fell down. As the dark color of this precipitate was due to the presence of sulphide of iron, which interfered with the proper application of the manganese tests, it was necessary to effect the separation of the two metals. This was done by dissolving the precipitate in hydrochloric acid, and then adding an excess of carbonate of lime in the cold, which threw down both the iron and the phosphates. The liquid was then filtered, and, to the clear solution, sulphide of ammonium added, when a flesh-colored precipitate, indicative of the presence of manganese, fell down in considerable quantity. As this test alone was not considered sufficiently conclusive, I fused a portion of the flesh-colored precipitate with carbonate of soda in the outer blow-pipe flame, when the green-colored manganate of soda was produced. A second portion of the precipitate was then fused with borax in the outer flame, when the amethyst red color, so characteristic of the presence of manganese compounds, was formed."

Mr. T. regards it probable that the manganese existed in the urine as chloride or sulphate, or perhaps as both.

6. "Of the intimate action of cannabis we know no more than we do of that of henbane, morphia, or hemlock; neither do we know less; whereas its evident effects are as conspicuous and as definite as are the properties of any one of those medicines. Hemp is a soporific, anodyne, and antispasmodic; it relieves pain and spasm, and it conduces to sleep; in doing either of these, it usually promotes diaphoresis and diuresis; whereas it does not leave behind it headache or vertigo; nor does it affect the appetite, nor confine the bowels.

"I have never seen any ill effects from its exhibition, when the dose has been duly regulated, varying from gr. $\frac{1}{6}$ to gr. $\frac{1}{2}$ for the child, and from gr. $\frac{1}{3}$ to gr. $1\frac{1}{2}$ for the adult. In two instances an overdose was taken by mistake. An elderly lady had the medicine prescribed for neuralgia of the fifth nerve, and taking more than the proper quantity, suffered for three hours from vertigo and dimness of sight, with great difficulty in standing. A young lady, whose violent headaches had been much relieved by doses of gr. $\frac{1}{3}$, repeated a dose too soon, felt almost immediate freedom from pain, and started with some friends to a whitebait dinner at Blackwall. Unaccustomed to the steamboat, to whitebait, and to wine, she shortly began to be extremely lively in conversation, then to 'clip her words,' and suffer from confusion of vision; but whether in this case the result was due to previous headache, to the steamboat, to whitebait, hock, or Indian hemp, I could never satisfactorily determine."

The author then mentions more or less detailed accounts of 22 cases, and concludes by placing these successful and unsuccessful cases in juxtaposition. We may gain some hints from the following table as to the class or type of malady upon which Indian hemp exerts its remedial action.

I.—MENTAL AND EMOTIONAL DISTURBANCES.

SUCCESSFUL.	UNSUCCESSFUL.
1. Deranged cerebral circulation, with pain and delirium.	14. Hypochondriasis.
2. Incipient insanity after yellow fever.	15. Temporary recurrent religious melancholy.
3. Senile ramolissement.	16. Insomnia with diabetes.

II.—PAINFUL AFFECTIONS.

4. Nervous irritation from carious teeth.	17. Sciatica.
5. Probable tumor of brain.	18. Hysterical hip.
6. Probable thickening of spinal meninges.	19. Hysterical headache.

7. Hæmorrhage at roots of 8th and 9th nerves.
8. Syphilitic meningitis.
9. Hemicrania.

III.—AFFECTIONS OF MOTILITY.

10. Meningitis.
11. Intense cerebral congestion.
12. Obstinate nervous vomiting.
13. Recurrent convulsions.
20. Epilepsy.
21. Epilepsy.
22. Epilepsy.

Indian hemp has been of no service in those affections of mind, sensation, or motility, which are simply functional in their character; or which, at all events, have no established morbid anatomy. On the other hand, it has afforded notable relief, in cases where undoubted organic disease existed, viz., in examples of congestion, softening, tumor, meningitis, and hæmorrhage

This medicine appears capable of reducing over-activity of the nervous centres, without interfering with any one of the functions of organic or vegetal life. The bane of many opiates and sedatives is this—that the relief of the moment, the hour, or the day, is purchased at the expense of to-morrow's misery. In no one case to which I have administered Indian hemp have I witnessed any such results.

The value of the medicine appears to me enhanced, not because it fails to act in some groups of cases, but because this limitation of its action will, I trust, enable us hereafter to apply it with scientific selection, and thus with that power which is the highest to be reached by art, viz., the prediction of results. Further, therapeutic agents have been the means by which questions have been so asked of Nature, that some of the most prized of her secret truths have been revealed in answer; and these have operated both directly in regard of the art of healing, and indirectly, also, by their contribution to that growing science of pathology, upon which, as its only sure foundation, all therapeutical success, beyond that which is merely accidental or blindly empirical, must rest.

7. The laudable object and example of Dr. Gairdner in publishing the statistics of the consumption of alcoholic stimulants by the hospital patients under his charge, should certainly stimulate all hospital physicians to prepare accurate records of the actual expenditure of alcoholic stimulants. In how many various ways this would lead to extremely valuable results, scientifically, morally, economically, as well as therapeutically, we need not here point out. We quote the Table of

Average Daily Consumption of Alcoholic Stimulants, per Patient, during Five Successive Years, in the Royal Infirmary, Wards 4, 15, and 16.

	1856.	1857.	1858.	1859.	1860.
General Ward, Males—					
Wines. (ounces)	0·158	0·465	0·710	0·928	0·739
Spirits. (ounces)	0·056	0·312	0·287	0·181	0·454
Malt Liquors, (pints)	0·039	0·040	0·025	0·053	0·058
General Ward, Females—					
Wines, (ounces)	0·446	0·534	0·799	1·498	1·200
Spirits, (ounces)	0·295	0·312	0·223	0·164	0·510
Malt Liquors, (pints)	0·064	0·069	0·048	0·061	0·048
Fever Ward, Females—					
Wines. (ounces)	0·715	1·256	1·734	1·725	1·140
Spirits, (ounces)	0·069	0·083	0·346	0·052	0·135
Malt Liquors, (pints)	0·023	0·029	0·135	0·069	0·027

As to the results, Dr. G. avers they are in two particulars most unexpectedly opposed to all his previous impressions. While he fully believed that the use of alcoholic stimulants in his hands had been at least stationary, if not decreasing, the table shows that there has been a nearly uniform increase. Again, it appears that among the women in the general ward the consumption of wine, during the entire period of five years, is decidedly greater than in the corresponding male ward; that of spirits but little less, and that of malt liquors at least as much. As the two wards are very much alike as regards the class of cases admitted, and have been during very nearly the whole period subject to exactly the same administration, it is hardly possible that this fact can be accounted for otherwise than by the apparent need for the exhibition of stimulants, and the demand for them having been actually greater among the women than among the men. Dr. G. adds: "I am quite certain, at least, that there is nothing in the personal convictions of myself or my assistants to account for the fact of so liberal a comparative expenditure of wine on the female side, inasmuch as all my own prejudices and those of most other people were assuredly in the opposite direction, viz., to the effect that women ought to require, and in the better class of society do require, a less quantity of alcoholic stimulation than men when suffering under disease, and especially acute disease."

Many other points of Dr. G's article we would willingly quote, but hardly can do them justice. Dr. G. by no means goes the entire length of the late lamented Dr. Todd, and gives stimulants, "if at all, only in very moderate quantities along with the food, and in general, as an aid to the digestion of food; the only exceptions being in the case of persons largely and habitually dependent upon stimulants from old and formed habits, and in a comparatively small number of acute cases for a very few days, sometimes only a few hours, to help the system over a dangerous crisis, or to co-operate with other needful remedies, such as antimonials, in pulmonary inflammation."

8. The following remarks accompany the report of the cases: "Heat Apoplexy" may, therefore, in my opinion, be considered as the result of pressure exerted upon the cerebro-spinal matter, by the intra-vascular blood on the one hand, and by the expanded cerebro-spinal fluid on the other, this being concurrent with irritation of the sympathetic system, produced in certain constitutions by some peculiar condition of the atmosphere, which cannot be explained.

Treatment founded on these suppositions ought to be just as it was, viz.: cold to the head; derivation by counter-irritation to the lower extremities; the administration of ice and of turpentine enemata, with V. S. to a moderate amount. Should I happen to meet with another such case, (as in this delightful and temperate climate of Singapore is not likely,) I should feel disposed to try the effect of full and repeated doses of Fleming's tincture of aconite, or of the tincture of the white hellebore, as prepared by my friend Dr. W. Wilkinson; and this with the view of subduing the excitement of the nervous system, and reducing the inordinate action of the heart.

9. Mr. Adams has enjoyed the rare opportunity of dissecting, in the recent state, fifteen cases in which subcutaneous tenotomy had been performed; so that, from the ample field that he has had for pursuing his investigations, the conclusions to which he arrives are entitled to receive the attentive consideration of surgeons and pathologists. He describes the process of repair under four heads:

(1*st.*) *Immediate results of the operation.*

The effects of subcutaneous division of the tendo Achillis in the human subject are described under this head; and it is pointed out that the amount of separation between the divided ends of the tendon depends upon the capability of the muscular fibres to contract and draw the upper portion upward, and of the flexibility of the ankle-joint as the foot is restored to its natural position. Mr. Adams is disposed to ascribe a considerable amount of influence to the cellular sheath of the tendon—by which he means the loose textured areolar tissue which closely invests and surrounds it—in connecting indirectly the divided ends. In this respect he differs from Mr. Paget, whose pathological views on this subject he, on the whole, however, adopts and confirms.

(2*d.*) *Commencement and nature of the reparative process.*

Increased vascularity of the structures at the seat of operation, especially of the cellular sheath of the tendon, commences the process, followed by a gradual infiltration of a blastematous material between the fibrous elements of this sheath. After a short time, numerous small oval nuclei appear in this blastema. Mr. Adams, however, does not tell us from whence these nuclei proceed; whether they take their origin in the blastema itself by the aggregation of granules, or whether they arise by the division of nuclei pre-existing in the surrounding textures. This is a point that he does not appear to have attended to. We have long been of opinion that the material effused in the reparative process for the union of divided tendons affords a favorable locality for the study of this subject; and that a set of experiments, carefully performed, might throw considerable light upon it. In the course of time the blastema assumes a distinctly fibrous appearance, so that it gradually assimilates in its structure to that of the old portions of the tendon, the divided ends of which it connects.

(3*d.*) *General appearance and structure of the newly-formed connective tissue, or new tendon; and its ultimate disposition.*

Mr. Adams points out, that although the new tendon, under the microscope, presents a distinctly fibrous appearance, yet that, to the naked eye, it can be readily distinguished from the old tendon by its grayish, translucent appearance, and by the property which it possesses as spreading out like a bit of serous membrane, rather than splitting up into fibres, when teased out with needles. He has noticed this peculiarity in a human tendon three years after operation. He relies upon this appearance as a powerful argument against the "linear cicatrix theory," which has been advanced by Mr. Tamplin, and supported by others of his colleagues at the Orthopædic Hospital. We are certainly at a loss to understand upon what sound physiological or pathological principles such a theory can be upheld, and we agree with Mr. Adams in the remarks which he makes upon it.

(4*th.*) *Influence of the divided extremities of the old tendon; junction of the new with the old tendon; re-formation of a separable sheath on the surface of the new tendon.*

Under this head, the rounding off of the cut ends of the tendon, and the dovetailing of the new material with the split fibres of the old tendon, and, as a final step, the more or less perfect reproduction of a separable sheath on the surface of the tendon, are pointed out.

In the chapter on the reparative process in the tendons of rabbits, the author merely confirms the account which Mr. Paget has given of the process of repair in the same animal.

We ought not to omit to state that the book is illustrated with a number of lithographs and wood-cuts; and that, in an Appendix, a *résumé* is given of the writings of various authorities, both in this country and abroad, who have treated of the subject of the reparative process in tendons after division, either by subcutaneous or open wound."

10. *Rayer* mentions abnormal smallness of the stomach in all its diameters, in his account of malformations. But of the authors on Diseases of Children, *Billard* is the only one who speaks of malformations of the stomach at all, and he omits the mention of congenital abnormal smallness. To denote the imperfect developments, the author prefers the name of "Hypogenesis" to the designation after Breckel, "Agenesis." He ascribes not only anatomical, but also clinical interest and importance to this condition, since it may well be diagnosticated during life. Geoffroy St. Hillaire, Meckel, and Sappey have reported cases where the stomach was only the size of the small intestines. Nothing accurate has, however, been known hitherto of the normal measurements of the stomach in suckling infants. The author first of all, therefore, measured 23 stomachs of infants at least 40 days old, who themselves measured, in whole length, from 46 to 50 centimetres. The measurement yielded the following:

The horizontal diameter from the left to the right measured from	7–8	centimetres.
The vertical diameter, from the middle of the lesser to the middle of the greater curvature	4–5	"
The length of the lesser curvature	5–7	"
The length of the greater	10–14	"
The thickness of the walls	2–3	millimetres.

The author then reports two cases, one of which he observed alive in the Children's Hospital, at Bordeaux, while the other became known only on dissection. Both children refused the breast; that of the mother, as well as of different wet-nurses, being satisfied with a few swallows. On trying to introduce the milk by means of a spoon, they could not be got to take more than five or six spoonsful, though they had no difficulty of swallowing. Vomiting was absent in both cases, and all the organs were otherwise healthy. The infants became more and more emaciated, and one died 14, and the other 24 days old. The autopsy revealed the following size of the stomach:

	In the First Case.	In the Second Case.
Horizontal diameter	3 centimetres.	8 centimetres.
Vertical diameter	3 "	3 "
Lesser curvature	2 "	3 "
Greater curvature	6 "	8 "

The thickness of the walls of the stomach was in both cases from one to two millimetres. The length of the child in the first case was 46, in the second 52 centimetres.

These two cases do not belong to the class of contraction of the stomach, described by *Meckel*, which occurs after too long abstinence, and which, according to *Rilliet* and *Barthez*, is known by a great number of folds along the greater curvature. *Langier* describes a diminution of the stomach in consequence of diminished feeding, and in attendance on chronic dyspepsia. But the author believes his cases to have been original malformations, not acquired diminution of the stomach; want of appetite, and non-introduction of food, were effect, not cause, of the condition of the stomach. The refusal of the breast, and of all nursing and feeding, leads, according to the author, to the suspicion of hypogenesis of the stomach, whenever no other cause for such refusal may be found, especially when the external conformation of the body is healthy, excretion from the bowels normal, and the want of appetite persistent from birth. In cases of œsophagitis, imperforation of the œsophagus, other congenital malformation of the stomach or obliteration of any part of the intestinal track, the infants also refuse to nurse; but in such cases, there is always vomiting, which in hypogenesis of the stomach is absent. In cases of constipation of the newly-born, where there may likewise exist this want of appetite, purgatives yield relief of the bowels and restore appetite; while in hypogenesis of the stomach, the stools are unfrequent and small, but still regular, and the want of appetite continues in spite of purgation.

11. Dolbeau reports two cases of prolapsed bowel, (one in a girl 3 years old, the other in a boy 5 years old,) both of which were cured by the subcutaneous injection of sulphate of strychnia, 30 centigrammes to 30 grammes of water. The canula was introduced one centimetre to the right of the anus to the depth of 0.5 centimetre, and 10–11 drops of the solution injected.

12. Dr. Wilson describes an instrument consisting of two finely-polished whalebone rods, one straight, and one with a hook on the end, so adjusted by connecting silver rings that one slides upon the other; this sliding movement being, by means of a stop, limited to about an inch, so as to prevent their separation when in use. He refers to the peril to the infant of the accident, of the difficulty of its treatment, and lauds the new instrument very highly, adding a couple of cases in which he has successfully used it.

But our object in giving Dr. W's article a notice here is less to present this simple and ingenious, and perhaps frequently efficacious instrument, than to call the attention of our readers, and especially our trans-Atlantic readers, to the Postural Treatment of Prolapsed Cord, introduced by Dr. T. GAILLARD THOMAS. It consists in—*Firstly*, Placing the patient on her elbows and knees; *Secondly*, Retaining the cord, which is easily done, owing to the falling of the viscera and fœtus forward, (it will often recede spontaneously;) and, *Thirdly*, Maintaining the patient in this position until one or more pains force the head so firmly into the strait that the cord cannot again escape.

REVIEWS AND BIBLIOGRAPHY.

A Practical Treatise on Military Surgery. By FRANK HASTINGS HAMILTON, M.D., Prof. of Military Surgery, &c., in Bellevue Hospital Medical College, &c., &c. New York: Baillière Brothers. 1861.

The publication of this work was announced in the last number of the MONTHLY. "The purpose of the volume is to supply information upon those points in Surgery, Medicine, and Hygiene which, as having relation especially to military and naval practice, are usually not considered in general treatises." In accordance with this plan, the author gives in separate chapters the needed information upon the examination of Recruits, the General Hygiene of Troops, the Bivouac, Accommodation of Troops in Tents, Barracks, Billets, Huts, &c.; Hospitals, either permanent, regimental, field, or flying hospitals; the Preparations for the Field; the Hygienic Management of Troops upon the March; the Conveyance of Sick and Wounded Soldiers, by hand litters, panniers, horse litters, and wheeled ambulances. Chapter IX. treats of Gun-shot Wounds. In the account of the treatment of gunshot wounds by simple water dressings, copious extracts are made from a treatise by Alphonse Amussat, to show the great efficacy of this plan and its superiority over others. This treatise quotes, among other authorities, the thesis of M. Malgaigne upon irrigation in surgical affections, and gives the conclusions of this distinguished surgeon, as follows:

"'First, cold irrigations are an excellent antiphlogistic when employed in superficial wounds or inflammations; but even then they are not infallible, whilst in deeper wounds and inflammations they only mask the symptoms, and ought to be rejected.

" 'Second, continued irrigations are only suitable for the hands and feet, and perhaps the forearm, but my facts are not sufficient upon this last point to decide; and even in these regions recourse should not be had to them except in the most severe cases. I give them an almost absolute preference in gun-shot wounds, but for other wounds I prefer intermittent irrigations.

" 'Third, in all cases the parts undergoing irrigation should be carefully covered with compresses, so as to exclude the air.

" 'Fourth, simple water appears preferable for continued irrigations, but for intermittent irrigations I choose *eau blanche* (plumbi diacetas, &c.) in cases of wounds, and a solution of sulphate of copper or wine in cases where no wound exists.

" 'Fifth, the temperature must *vary* according to the sensations experienced by the patient when the water is first applied; and in all cases we must abridge the duration of the irrigations as much as possible.'

" I believe with M. Malgaigne, that irrigations are not absolutely infallible any more than other means employed in surgery; but, with the numerous facts which I possess of lesions located in almost every part of the body, forearm, leg, and knee, I cannot agree with him in the limits which he has placed upon its use. As to the duration of the irrigations, I think, where a moderate temperature is suitable, they may be continued a long time with advantage; and I am reminded, among others, of a case, which I will soon publish, where a cure was effected of a severe wound of the leg, by irrigations of water at a temperature of 20° C. (68° F.) continued more than two months."

In this chapter are recorded many curiosities of recoveries from severe wounds of vital organs, such as the case of the man Gage, who was shot through the head with a tamping-iron, three feet seven inches in length, one inch and a quarter in diameter at its largest end, and weighing thirteen pounds and a quarter. The wound occasioned by it is described as commencing just anterior to the ramus of the inferior maxillary bone of the left side, taking a direction upward and backward towards the median line, passing through the left anterior lobe of the cerebrum, and making its exit at the junction of the coronal and sagittal sutures; lacerating the longitudinal sinus; extensively fracturing the frontal and parietal bones; breaking up a large portion of the brain, and protruding the globe of the left eye from its socket by nearly one-half its diameter.

In 1860 this man was still living, and in the enjoyment of good health, with no impairment whatever of his mental faculties.

The remarkable case of Gen. Shields is also noticed in this book. This gallant officer was wounded in the chest at Cerro Gordo, the missile entering between the fourth and fifth ribs of the right side, about an inch and a half from the sternum, and emerging between the sixth and seventh ribs of the same side, about an inch from their junction with the vertebræ. He recovered perfectly, and was afterwards engaged in several battles during the campaign in Mexico. It is presumed, from the direction of the wounds of entrance and emergence, that both pleuræ and the substance of the right lung were wounded. These instances of recovery after severe injuries of vital organs are not rare. Numerous cases are recorded by Professor Eve in his work on Surgical Cases. An extraordinary instance of recovery from a gun-shot wound, the ball being found in the wall of the right ventricle of the heart eighteen years after the accident, will be found in the MONTHLY for September, 1860.

Amputations constitute the subject of the tenth chapter, and it is considered under four divisions: 1, What conditions of the limb in army practice demand amputation; 2, The point at which the amputation is made; 3, The method of amputation; and 4, The period of time at which the amputation ought to be made. This chapter contains much important matter upon the topics discussed, stated clearly and concisely. The employment of anæsthetics in amputations and other surgical operations, after gun-shot injuries, is the title of the next chapter. The author weighs carefully all the evidence as advanced by others in favor of the use of anæsthetics, and notwithstanding the authority of Baudens, who says that they had no fatal accidents from its use, although during the Eastern campaign chloroform was employed thirty thousand times or more, he gives his own belief and conclusions as follows:

" Anæsthetics are of inestimable value in their efforts as remedial agents, and in their power to extinguish sensibility, temporarily, and especially during the performance of severe surgical operations; but we prefer ether to chloroform, as being the least liable to destroy life, and we would never employ ether when the system was greatly prostrated by disease, or by the shock of a recent injury, unless the patient exhibited an unconquerable dread of the pain of the operation, or the operation was likely to prove exceedingly painful."

The concluding chapters are upon hospital gangrene, dysentery and scorbutus. They present nothing particular, other than that they give in a few paragraphs the prevailing views in relation to these plagues of the hospital and the camp. We think, however, they are deficient in a clear statement of the nature of the affections as we now understand them. Their pathology is not given, and the uncertainty of our knowledge of the pathology, and the insufficiency of our therapeutics, is too apparent in the course of these chapters.

The work has not a dull page in it. There is no dry detail, but facts are stated plainly and forcibly, reasons are given briefly and frankly, and the result of experience in the preparation of the soldier for the field, the care of him in camp, and the treatment of the sick and wounded, whether upon the field or in hospital, is here summed up in a few short chapters. Altogether, the perusal and study of the work has given us much satisfaction.

On Diabetes and its Successful Treatment. By JOHN M. CAMPLIN, M.D., F.L.S. From the second London Edition. New York: S. S. & W. Wood. 1861.

This little volume of 87 pages, 12mo, consists of a short paper reprinted from the "Medico-Chirurgical Transactions," with a sketch of the various opinions relative to the nature and treatment of diabetes. The first part is a history of the author's own case, and is pleasantly entitled "On the Juvantia and Lædentia in Diabetes." The treatment employed by the author in his own case, and which he claims to have applied with great success in many other cases, is mainly dietetic. Bran bread figures most particularly, and a formula for the manufacture of bran cakes is added to the volume. The plan was suggested to him by Dr. Prout, but the bread made from the ordinary bran acted so powerfully upon his bowels that he was forced to discontinue it in this form. The author perceiving the effect of the bran, proposed to have it made into a fine powder, and he had a mill made for that purpose, so that by grinding the bran and carefully sifting it, he has avoided the action of the coarse bran, and has succeeded in making a flour from which a cake is prepared, which he has used for years with the best results.

The second part of this work relates to the pathology of diabetes. The author had considered the views of Dr. Prout as correct; he agreed with him in considering the change of amylaceous matters into sugar to take place in the stomach and primæ viæ, and his treatment of his own case was founded upon these views. The author is still disposed to believe that, in many cases, the gastric juice may be so changed as to resemble the saliva in its properties, and that sugar may be absorbed independently of the liver. In confirmation of this, he quotes in a note the experiments of Brown-Séquard, which go to show that, in the normal state, starch is to a certain extent converted into sugar in the stomach. In opposition to this, he gives the views of Bernard upon the glucogenetic properties of the liver. The more recent researches of Dr. Pavy, with their conclusions coinciding in a great measure with those of Bernard, but differing in some important respects, are briefly stated, and the legitimate practical deductions are therefrom made.

This short monograph presents to the profession *in petto* much that is desirable to know. In a few pages the physiological pathology of this disease, as at this day understood, is put before the profession, the practice founded upon the views stated, and an illustration drawn from the records of the individual experience of the author of the results of the treatment upon himself and other striking cases.

The New American Cyclopædia: A Popular Dictionary of General Knowledge. Edited by GEORGE RIPLEY and CHARLES A. DANA. Volume XII. *Mozambique—Parr.* New York: D. Appleton & Co. 1861. 8vo, pp. 788.

The spirit of war, so prevalent now throughout the length and breadth of our land, has put a check, to a certain extent, to the pursuits of literature and science. Medical professors have resigned the duties of their professorial chairs; men of science have suspended their investigations; and literature itself is overlooked in every department, except that which relates to military tactics and the science of offence and defence. This is no more than could have been expected from a people whose love for their country and its full privileges is inordinately great. Still, we are happy to find that some of our publishers are enabled to go on with the works undertaken years since, whose arrival the reading public awaits with anxiety, about the time they have been promised. The Cyclopædia, whose design is so catholic, has won its way into general favor as the handy-book of reference for all classes in society, and we hail the appearance of the twelfth volume, in these stirring times of war, as an assurance that both editors and publishers are determined to fulfill all they promised when the first volume made its appearance.

The present volume evinces an increased amount of care on the part of the editors, It is true that, in the department of contemporaneous biography, many names are introduced altogether unknown to fame, that might be of importance in special treatises like those of

Vaperaud and Allibone, but could, without any injury, be omitted in a general dictionary. Still, we find so much that is of interest, so much that is accurate and fresh, presented in a style sufficiently condensed to suit this active age, that we continue firm in our opinion, formed from an examination of the first volume of this Cyclopædia, that it is one of the most useful works that a professional man can find to place on his book-shelves, and that Americans should be proud that our own talent and enterprise have furnished it to the world. The paper and typography of the book are of superior character, and do credit to those who have the detail of its mechanical execution in charge.

L. H. S.

TRANSLATED FROM THE FRENCH, EXPRESSLY FOR THE MONTHLY.

Lectures on Diphtheria. (Egyptian Disease.) Delivered at L'Hôtel Dieu, Paris. By M. Trousseau.

(Translated by the Editor from La Clinique Médicale de L'Hôtel Dieu, of M. Trousseau.)

(Continued from Vol. XV., page 468.)

*Nature of Diphtheria, Contagion, Alteration of the Blood, Albuminuria.**

Gentlemen—When M. Bretonneau wrote his *Traité de la Diphthérite*, medicine, or at least French medicine, was under the influence of the physiological doctrines of Broussais, the theory of inflammation dominated pathology, and the element of inflammation in a disease, whatever it might be, was the only one to be taken into consideration. Pinel had, nevertheless, shown that, in the different organic tissues, inflammation was subjected to very manifest modifications, and in this respect the illustrious author of the *Nosographie Philosophique* threw a great light upon the history of diseases, and gave the spirit of observation a new impulse. M. Bretonneau going farther than Pinel, in his turn, showed that the difference in the inflammatory alterations, and in the phenomena which accompany them, does not only depend upon the specialty of the tissue affected; he showed, by publishing his remarkable works upon diphtheritis and dothin-enteritis, that the specificity of the inflammation, much more than its intensity, much more than the nature of the tissue, which was the seat of it, influenced the change produced in the functions by every inflammatory lesion; it is, said he, to the specificity of the inflammation that the duration, severity, and the danger of most pyrexias is due.

The disease which we study is no exception to the absolute rule laid down. In inflammatory angina, in croup, we see only the angina, the laryngitis, the inflammation which it is necessary, above all, to combat by antiphlogistics. Doubtless, the inflammatory element plays its part; but this part, far from being the principal, is altogether secondary, absolutely the same as in variola, rougeola, syphilis; in many other diseases, it is subordinate to the nature of the cause which prevails and impresses upon it its special character.

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* We omit the lecture on *The Different Localizations of Diphtheria*, which, in the work from which we translate, precedes the present lecture.

There is, however, an essential difference to be noted between diphtheria and the diseases we have just named, in that in the former greater heed must be given to the local affection than in the latter. If, in variola, for example, we do not pay attention to the pustules, if, at least, we pay attention to them only with regard to the diagnostic and prognostic signification which we may draw from them, if we do not regard them at all in respect to the course of treatment; such is not the case with diphtheria. We may compare, indeed, what takes place in this case with what takes place in the case of malignant pustule, in which, by attacking directly the local affection, we cut short the progress of the general disease, of which this affection was the first manifestation. In the same way, in diphtheria, by combating energetically the first manifestation, we may sometimes check the progress of the disease, and prevent the ulterior manifestations. I shall return to this point when speaking of treatment.

Whatever may be, however, its local manifestations, whatever may be its general forms, diphtheria is, in its nature, a unity; whether it affects the mucous membranes or the skin; whether it is pharyngeal, laryngeal, or bronchial angina; whether it is stomatitis or membranous coryza; whether it is cutaneous, vúlvar, anal, or preputial diphtheria, it is always the same disease. The diversity of forms which these local affections may present depends simply upon the diversity of the tissues on which diphtheria manifests its action; but these different manifestations are the effects of one and the same cause. The fact is indisputable, when we see in epidemics diphtheria affecting localities so diverse and transmitted from person to person under different varieties of local affections; when we see, for example, a patient affected by gingival diphtheria, communicating to others either pseudomembranous angina, or croup, or cutaneous diphtheria, or any other sort of pellicular affection; or according to the instance cited by Dr. Guersant, when we see diphtheria of the prepuce in a child becoming the starting-point of pseudo-membranous angina in the brother and father.

When we consider how great are the points of difference which appear between the diverse forms of diphtheria, it would seem that that which kills by propagation to the respiratory passages, which may be called simple (genuina) diphtheria, and that which destroys by general intoxication, malignant diphtheria, must be very distinct in their nature. Well, gentlemen, under this diversity of forms, as just now in the variety of its local manifestations, we find always the same disease. It is the same with diphtheria as with small-pox, which, whether confluent or discrete, simple or malignant, is always small-pox. The transformations which the disease undergoes, according to the epidemics, depend upon that indescribable something which we have agreed to designate by the name of *epidemic genus;* this diversity of forms, in the same epidemic, depends upon the natural or acquired predisposition upon the organic constitution of the individuals affected. And the comparison which we have established, from this point of view, between diphtheria and variola, seems to us so much the more apt, because independently of its simple and malignant forms, of which I have spoken to you, the pellicular disease assumes, under certain circumstances, another which would seem to bear the same relation to it, as varioloid does to the small-pox. In certain epidemics, indeed, we have seen individuals seized with angina, which, from their anatomical character, seemed to be either common membranous anginæ, such as herpes of the pharynx produces, or even simple anginæ, although in reality we have had to do with diphtheritic angina, but with diphtheritic angina singularly modified. That which renders our comparison apt in every respect; that which proves the identity in the nature of these various forms, is that each one of them, in its transmission from one person to another, may manifest itself under a peculiar aspect; as, for instance, modified diphtheritic angina may communicate simple or malignant diphtheria in precisely the same way as varioloid is susceptible of communicating confluent or discrete small-pox, and reciprocally. Thus, at the session of the Medical Society of the Hospitals of Paris, on the 25th of August, 1858, my honorable colleague, Mr. Guérard, cited the following facts, which had recently come under his observation in a single family, during a period of about six weeks' time. A child died of laryngeal croup; erythematous angina manifested itself two days after in two young girls, who were attended by M. Gillette. A few days later the father, forty-five years of age, and who was attended by M. Guérard, was seized with angina with false membranes in the pharynx. Finally, two other children were attacked; one with simple angina, the other with membranous angina.

A similar observation has been communicated by Dr. Henry Roger to Dr. Peter, who mentions it in his thesis, (Recherches sur la Diphthérite et le Croup. Paris: 1859.)

Little G., two months old, was seized with membranous angina on the 17th of May; she died during the day of the 22d.

On the evening of the 21st, her mother, twenty-two years old, experienced a feeling of restlessness, accompanied with fever; the existence of angina was manifested, and twenty-four hours afterwards, a whitish point appeared on the right tonsil. The following day, false membranes were apparent on the two tonsils. The submaxillary ganglions were swollen, and the cracks of the breast about the nipple were covered with pellicular concretions. The general and local symptoms increased in gravity the following days, but finally a slow and gradual improvement supervened. The false membranes had completely disappeared by the commencement of June; however, an abscess formed in the right tonsil. The cure was complete on the 11th of June.

The nurse of the little girl, thirty-three years of age, was attacked by severe, but not pseudo-membranous angina. The disease lasted thirteen days, from the 23d of May to the 4th of June.

The father of little G., aged thirty-five, had a simple angina of moderate intensity, which lasted four days, from the 25th to the 29th of June.

The grandfather and grandmother who came daily to see their children, especially the grandmother, who nursed them, were seized with simple and very mild anginæ.

A lady living in the neighborhood, a friend of the family, who came often to see them, was attacked by laryngitis.

The family cook, aged forty and upward, had no symptoms whatever of sore throat.

M. Peter follows these cases with certain reflections, which agree completely with my views

Then, in opposition to these facts, in which the disease follows in respect to severity, a decreasing progression in its transmission from children to adults, the same author reports in his thesis (Paris, 1859,) a series of other facts in which the disease goes forward in inverse progression in passing from adults to a child, and from the latter to a man already advanced in life.

Such is the history of a family, the head of which first attacked, communicated to his wife a membranous angina from which she recovered. Six days after, their child, aged twenty-six months, was attacked with pharyngeal diphtheria; then on the twelfth day the larynx was invaded, and on the following day, when M. Gillette did me the honor of calling me in consultation, croup was firmly seated. In the evening M. Peter performed tracheotomy; it did not prevent death, which occurred the fourth day after.

It was from this child on whom he faithfully attended that our lamented confrère, Gillette, caught the diphtheria and croup to which he succumbed without any attempt at tracheotomy being made, the false membranes having invaded the bronchii.

Diphtheria is therefore peculiarly a specific disease, whose different modes of local and general manifestations, forming merely varieties of the same species, must be referred to the action of a single morbific principle, a special virus; it is, in a word, a pestilential disease. Like all peculiarly specific diseases, it is contagious, and perhaps it is inoculable. As to this latter point, the rare examples which have been reported to prove the inoculability of diphtheria, and especially those communicated to the Medical Society of the Hospitals by M. Bergeron, these examples, I say, are susceptible of discussion, and the experiments made to establish a vigorous demonstration of the facts have remained fruitless. I do not speak of the experiments made on animals, for we know that in respect to inoculability, we cannot conclude from animals as to the effect on men; I speak only of experiments made from man to man.

I attempted, in 1828, to inoculate myself with the disease by puncturing the left arm, the tonsils, and the veil of the palate with a lancet smeared with a false membrane which I had just taken from a diphtheritic sore, and I did not give myself diphtheria. In the excellent memoir which I have already several times cited to you, M. Peter relates that full three times he practiced on himself the same experiment. In the first case, when performing tracheotomy upon a child, he received on the cornea of the left eye a semi-liquid, pseudo-membranous production, which covered for an instant the globe of the eye, and the more liquid portion of which passed under the eyelids; he did not wash the eye thus affected, and yet no accident whatever resulted therefrom. In the second instance, he made three punctures in his lower lip, with a lancet dipped in a semi-liquid diphtheritic exudation, and experienced from it no derangement whatever in his health. Finally, a third time, this bold experimenter rubbed over his tonsils, the pillars of the veil of his palate, the posterior part of the pharynx, a brush of lint filled with diphtheritic matter, and this time, also, the result was negative. It may be, therefore, gentlemen, according to these experiments, that diphtheria is no more inoculable than are measles, scarlatina, whooping-cough; diseases whose contagious properties, however, no one denies.

As to the *contagion* of diphtheria, if for an instant it can be denied, if for one moment we forget the observations of our predecessors, those of Rosen among others, and a very long time before him those of Cortesius, of Wedel, etc., no one can at this day dispute it. In his *Traité de la Diphthérite*, M. Bretonneau called attention to this point, and he reverted to it still more particularly in his last work published in the *Archives* for the year 1855. The facts are multiplied on every side in the history of epidemics. Sometimes it is not always easy to grasp the mode of transmission of the disease from one locality to another. In some circumstances, however, we can trace it directly to its origin, as in the following case, whose authenticity cannot be doubted. The epidemic of diphtheria which raged in 1858 at Fresuay-le-Ravier, in the arrondissement of Nevers, started with a child who was brought from Paris. This child succumbed, and the child of the nurse to whom it communicated the disease also died; from thence the scourge attacked the village.

Once admitted into a dwelling, the tendency of diphtheria to propagate itself by contact from individual to individual is incontestable. How many times have we seen almost all the children of a family successively attacked, and the father and the mother, or the assistants who attended upon the patients, subjected in some degree to the influence of the disease. I have cited examples of this, and you know, gentlemen, that physicians have largely paid their tribute to the contagion of this frightful disease. I have spoken to you of Valleix, of Henry Blache, of Gillette, and without doubt to this list, already too long, we could add other names.

This question of the contagion of diphtheria is therefore now generally answered in the affirmative. Latterly, it has been placed on the list of subjects for discussion before the Society of the Hospitals, and has secured to us an excellent communication from Dr. Henry Roger, the purpose of which was to establish by a series of authentic and rigorous observations, not only the contagious properties of the disease, but also the duration of the period of incubation of the diphtheritic poison.

From this communication, it appeared that the duration of the period of incubation was most generally from two to seven days; you will understand, however, according to what you know of the non-inoculability of diphtheria, that these figures can only be merely approximative.

I have told you, gentlemen, that diphtheria in its malignant form destroys after the manner of the septic diseases, by a sort of general and profound intoxication of the human economy. This intoxication manifests itself during life by the general and local symptoms which I have described to you; it betrays itself, also, by a particular alteration of the blood, which is discovered on the autopsy; it betrays itself by an affection which is met with in a great number of septic diseases—small-pox, scarlatina, dothin-enteritis, cholera—I mean albuminuria; it betrays itself, finally, by nervous paralytic accidents, accidents of the deepest interest, and to which I shall devote an entire lecture.

The alteration of the blood, to which I call your attention to-day, was pointed out for the first time by one of our young confrères, Dr. A. Millard, in his excellent inaugural thesis *upon tracheotomy in croup*, (Paris, 1858;) it has since been spoken of in the memoir of M. Peter, (1859.) Out of six autopsies of persons who died of croup complicated with membranous coryza, an accident which I have named as one of the manifestations of malignant diphtheria, M. Millard in five instances met with this alteration of blood, of which, up to that time, no one had made mention. I would also add, in accordance with the remark of the author, that in the fifth case, the observation was too incomplete to allow a negative conclusion to be drawn from it. This alteration consists in a coloring of this liquid very different from the normal color; in place of being red, more or less deep, it is brown, and M. Millard compares this color to that of plum-juice, or liquorice-juice; it stains the fingers, he says, almost as sepia does. M. Peter compares this coloration of the blood to that of water in which soot had been dissolved. The viscera and the mucous membranes, which are impregnated with it, present a characteristic dirty tint. This blood is thick, and slightly muddy; the clots which it forms are soft, and offer a sort of resemblance to grape preserves too much cooked. The arteries, in place of being empty, as they habitually are after death, contain almost as much blood as the veins.

I now come to *albuminuria*. Gentlemen, several years since, an English physician, Dr. Wade, of Birmingham, announced that he had detected the presence of albumen in the urine of individuals attacked with diphtheria; he announced it as a frequent and incontestable phenomenon in mortal cases; supporting his own experience with that of his confrères, he reported that the same fact had been observed by several physicians, and he cited Dr. James, who, in the *Medical Times*, had published the interesting account of an epidemic of croup. Dr. Wade added, that having communicated the result of his observations to the Medico-Chirurgical Society of Queen's College, confirmatory observations had been immediately brought forward by Dr. Robins, and also by others. This discovery, at first made public in a periodical publication of small circulation on this side of the Channel, (*The Midland Quarterly Journal of Medical Science,*) remained a long time unknown in France. I was ignorant of it, as every one else, when there fell into my hands an unpublished paper of Dr. Abeille, who first, to my knowledge, mentions diphtheria among the diseases in which albumen might be met with. From that time I let slip no opportunity of looking for the phenomenon; I detected it in several patients in the very wards of the clinic, and I did not fail to point it out to you in my lectures, after the year 1857. At the session of June 23, 1858, Dr. See, who was ignorant of the labors of the English physician, and who could not know anything of that of Dr. Abeille, called general attention still more particularly to the frequency of albuminuria in malignant angina and in croup, before as well as after tracheotomy; he reported that at the Children's Hospital the urine of all the patients attacked by diphtheria was submitted, with this purpose in view, to an examination each day, and that in a third at least of the individuals albumen was found in noteworthy quantities. As was asserted by Dr. Wade, this is indeed an accident of very great frequency, and in several instances I have placed it in your power to verify it. The interpretation of it has been sought for in various ways. According to some the cause is complex, and the presence of albumen in the blood depends, in some cases, upon a passive and temporary congestion of the kidneys produced by asphyxia in croup, and upon the sanguineous stagnation which results from it. This theory is very much open to objection, even in respect to the exceptional cases, to which it is pretended to be applied. In our view, as indeed according to the views of the generality of physicians, albuminuria, in diphtheria, is connected with the general condition of the human economy; and we find also here, what we remark in the septic diseases, such as small-pox, scarlatina, dothin-enteritis, etc., without, up to this time, having been able to give the reason for the fact. In certain cases, albumen appears in the urine from the very commencement of the disease; the quantity which the reaction provoked by nitric acid and by heat make manifest, varies considerably, in the same individual, from day to day, and sometimes its appearance assumes an intermittent form, ceasing for a greater or less period, only to reappear again. You remember, gentlemen, that such was the case with that young woman in the bed No. 9, in our ward Saint Bernard, whose case I will relate to you when we come to speak of diphtheritic paralysis; you remember that the variations in the quantity of albumen which we found in examining the urine of the patient did not at all coincide, during the course of these paralytic accidents, with their increase or decrease, and that we sought in vain to base a prognosis upon what took place in the test-tube. In fine, however interesting may be the phenomenon, it is not at present possible to draw from it an absolute induction.

If it is proper to say, in a general way, that albuminuria is habitually met with in diphtheria, in severe cases, there are, however, very numerous exceptions to this rule. On the one hand, albuminuria is observed in mild cases; and on the other, it fails to appear in the most serious cases. It is also pretended to explain by it the phenomena of paralysis, of which I shall presently have occasion to speak to you; but as I shall tell you on this point, in these cases also, on the one hand we have seen albuminuria sometimes wanting; on the other hand, we could not compare these paralytic phenomena with the nervous accidents which supervene in the case of acute or chronic attacks of albuminuria, since the nervous accidents are characterized by convulsive or comatose phenomena, and because, with the exception of amaurosis, paralysis has never been remarked in these cases. One word more upon this subject. While Dr. Wade says that he has never seen dropsies accompanying diphtheritic albuminuria, these dropsies, according to M. See, may sometimes be met with, much more rarely, it is true, he adds, than in scarlatina. As for myself, I have observed but a few examples of it, and so far as I may trust to my memory, I think I can affirm that this anasarca is not apparent in a twentieth part of the cases. Our conclusions are, that the existence of albumen in the urine of persons attacked by diphtheria, whatever may be its form, whatever its manifestation, membranous angina, croup, cutaneous diphtheria, etc., is a frequent accident, but one which, in the actual state of our knowledge, can only have a limited signification as regards prognosis and treatment. It cannot be denied, however, that it is the expression of the great perturbation occasioned in the organism by the morbid principle which engenders diphtheria.

EDITORIAL AND MISCELLANEOUS.

—Public health is public wealth. This short aphorism has, with the advance of sanitary science, acquired a meaning which political economists of the last century hardly dreamed of. But the preservation of the public health in time of peace is not more important to the State than is the sanitary condition of its armies in time of war. The health of an army is the strength thereof. A recognition of this fact by the Federal Government is apparent in the appointment of a Sanitary Commission, whose duty it shall be to establish a proper surveillance over the troops in camp and in the field, to adopt such measures as will place them in the best condition to resist the influences which affect their health, to see that their food, clothing, &c., are proper and sufficient, and that nothing shall be present to weaken the efficiency of the force from causes affecting the health of our soldiers.

The effects of a Southern climate upon the Northern constitution is a subject which will particularly attract the attention of this Commission. Whatever these effects may be, they can be mitigated in a great measure by the acts of this Commission, the concerted aid of the medical officer of the corps, and the intelligent understanding of the subject by the soldier himself.

Comparing the Northern soldier with the Southern, we believe the former will withstand the effects of the climate for a short campaign of a year or more better than the latter; and though the popular belief is divergent to this view, the statistics of our war with Mexico fully sustain it, and the published opinion of no less an authority than Dr. Nott, of Mobile, in the *Southern Journ. of Med. and Pharmacy* for January, 1847, confirms it.

The statistics of the Mexican War are so remarkable, that we present them as we find them, given in a recent number of the *Evening Post:*

On April 8th, 1848, the Secretary of War made a report to the United States Senate of the losses of the volunteer forces employed in Mexico. From this, it appears that seven Northern States—Massachusetts, New York, New Jersey, Pennsylvania, Ohio, Indiana and Illinois—furnished, in the course of that war, 22,573 men. Of this force, the total loss from disease was 2,931 men; less than one-eighth of the whole. Nine slave States—Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Tennessee and Kentucky—furnished 22,899 men. The loss from this force by disease, and death caused by disease, was 4,315, or more than one-fifth; a very considerable difference in favor of Northern troops.

When we go into particulars, we find that Massachusetts lost, of 1,047 men, but 61 by disease; while South Carolina, furnishing 1,054 men, or seven more than Massachusetts, lost not less than 338 by disease. Mississippi lost 769 men by disease, out of 2,319; while Indiana, furnishing nearly double the number, namely, 4,470, lost only 768. Georgia lost 362 men by disease, out of 2,047, while New York lost but 188 of a total of 2,665. North Carolina sent 936, and lost 233; while New Jersey sent 424, and lost but 12. Pennsylvania sent 2,464, and lost 411; Mississippi lost 769 out of 2,319. Illinois furnished 5,973 men, and lost 850; while Tennessee furnished only 5,090, but lost not less than 1,065; Alabama lost 323 of a force of 3,011; Arkansas 136 of a force of 1,323; rather more than ten per cent. in each. Kentucky lost 709 out of 4,800; but Ohio, sending 5,530, lost but 641. The Texan troops, fighting in a country to whose circumstances and climate they were thoroughly accustomed, lost yet more by disease than the Missourians, who came there from the cold North. Of 7,313 men, Texas lost 360 by disease; while of 6,733 Missourians, only 342 were thus lost.

— Dr. Simplice, whose *spirituelle causeries* in the *Union Médicale* we have frequently had occasion to quote from, gives a touching account of the sad condition of the physician in Paris relative to professional expenses and receipts. The former increase yearly, particularly as regards house-rent, while the fees of the medical man do not grow in a corresponding ratio. How naively and pleasantly the Dr. puts disagreeable and plain facts! The life of the physician at Paris, says he, is not always one of pleasure. I know it too well, and observe it every day. One of the greatest cares is certainly on account of a place of abode. The profession in regard to this subject is placed in a most ruinous state, and the expense is so great that I do not understand how the physician can possibly exist. I do not know, my dear editor, if you have remarked it, but physicians in Paris appear to me to be generally and sensibly growing thin. I claim priority in the discovery of this fact; I could guarantee it by a sealed letter addressed to the Academy, but I prefer to assure it by the publicity in the *Union Médicale.*

The fact is, the physicians grow thin; the cause—they do not eat as much as they should, and they are obliged to eat less because the rent has reached such a sum that they are obliged to retrench upon the larder.

Twenty years ago, physicians who payed 2,000 francs a year for rent, were rare; to-day, it is rarer still to find a physician who does not reach or even surpass that sum. The mean sum paid by physicians for rent, in Paris, at this time, is between 2,000 and 3,000 francs a year.

But from data which I have collected, I am able to state, that the mean professional revenue of Paris does not exceed 6,000 francs a year.

When, then, the mean of the receipts does not exceed 6,000 francs, and the mean of one single expense is equal to 2,000 to 3,000 francs, how is it possible that physicians should not grow thin?

— Secession with our friends at the South has been carried into every department of life, and every branch of science and art. The American Medical Association has not escaped their consideration, but they must denounce union with Northern medical men, even on the platform of our profession. How their vagaries look abroad we learn from a *feuilleton* of the *Union Médicale,* just received.

The universal unity of our profession, not a national union simply, is the direction which the various associations of all countries are tending to, and the writer in the French journal quoted says an attempt to destroy this unity has been made.

"It is in America," he writes, "and remark it well, in that re-Union of fresh date, and founded upon slavery, of seven insurgent States of the South, that this crime of *lèse*-union has been premeditated and actually put in execution. Thus resemble and are intertwined by an inevitable consequence the acts of nations and individuals. One separation brings on another, and whoever, sacrificing the interests of family to his selfishness, abandons his mother, then his brothers, will finally end by abandoning his own children. The editor of the *Atlanta Medical and Surgical Journal* has been led thus to preach, thus to provoke the disunion of the American Medical Association. Inspired with the secession already undertaken, he desires that the physicians of the seven rebellious States should break the general association which united them to their brethren of the great Republic; just as if medicine was a solidarity with politics, and should partake the destinies of it. 'As long as it pleased us to remain slaves,' says he, 'we have borne the yoke without saying a word; now that it weighs upon us, we wish to be free from it.' Strange aberration of a mind in revolt! To treat as slavery the mild and benevolent association, and wish to break with it in the name even of the principal which consecrates and imposes so hard a slavery—does not that severely condemn it?"

— *The Medical Department of the University of Buffalo* makes its announcement for the coming Course of Lectures in the present number of the MONTHLY. This institution is in a flourishing condition, and possesses all the advantages which an active Faculty and the resources of a large city afford. Its last Graduating Class numbered thirty; the whole number of students in attendance being eighty. Since the last session, Dr. William H. Mason has been appointed to the Chair of Physiology and Microscopic Anatomy. Dr. Mason is now in Paris, but will return in season for the lectures, which commence in November next.

New York Medical College and Charity Hospital, 90 *East Thirteenth Street, New York.*—The Fall Course of Lectures in this Institution will commence on Monday, September 16th, and continue until the 15th of October, when the regular Winter Course will begin.

For further information, apply to or address Prof. B. I. Raphael, Acting Dean, 124 Ninth Street.

New York Medical College and Charity Hospital.—The Chairs of Theory and Practice of Medicine, Anatomy, and Chemistry having become vacant by death and resignations, all applications for these Chairs must be addressed to Prof. B. I. Raphael, Acting Dean, 124 Ninth Street.

Cellules of Pus in the Atmosphere.

By Dr. THEOPHILE EISELT, of Prague.

An important discovery, in the domain opened up by the Bréant prize—the investigation of contagious miasms in the air—has just been made by the author. In the large Institution for Foundlings at Repy, near Prague, during the last autumn and winter, there were, amongst 250 children from 6 to 10 years of age, 92 cases of blenorrhœa of the conjunctiva. This epidemic ophthalmia convinced Dr. Eiselt that the contagion could be communicated in some other way than by contact. He took care, and enjoined the same on the nurses, not to touch the eyes of the affected children, but, despite these excessive precautions, the doctor and the nurses were all attacked with the same affection. The idea occurred to Dr. Eiselt of examining the air of a hall containing a large number of patients, by means of the aeroscope of Pouchet, as modified by Prof. Purkynje, of Prague; as soon as the air entered the apparatus he saw distinctly small cellules of pus, which had certainly answered as the vehicle of the contagion.

Appreciating the importance of this discovery, several members of the Imperial Society of Physicians at Vienna have united in the common investigation of this statement. COSMOS.

We must state our incredulity as regards the character of the cellules seen by Eiselt. The atmosphere, we are aware, is a perfect armory of much that is hurtful to health and life; and much that is valuable, as regards the doctrine of contagion, might be obtained, if the constituents of this armory were examined; still, there is too much of sound pathology controverted by the supposition of the existence of pus-cells in the air, with the power of engendering their like when brought into contact with mucous membranes directly, or when carried into the blood by inhalation. But we can wait for the Viennese experimenters. *Nous verrons.* EDITOR.

Touching Lint.—Liebig, in one of his delightful letters on chemistry, affirms that the quantity of soap consumed by a nation would be no inaccurate measure whereby to estimate its wealth and civilization. From the consumption of lint we may, with the same certainty, deduce important conclusions respecting the magnitude and severity of a nation's battles. In a letter which appears in another part of this journal, the effect of the American conflict on the trade in lint is touched upon, and some interesting details respecting the various kinds of lint now in the market are given. As the war fever is raging at the present time, and as the demand for lint daily increases, I take the opportunity for saying a few words about this important product.

Lint was formerly prepared from old linen rags by a process which I shall presently describe. The machine-made lint now generally used invariably contains a portion of cotton; and the variety known as cotton-lint—the term is an etymological contradiction—is formed exclusively of this fibre. Flax, which consists of woody fibre, is procured from the inner bark of the stalk of *Linum usitatissimum*, by the process of steeping and stripping off the bark. Under the microscope the fibres are readily distinguished from cotton, being round and attenuated to a point at each end. Cotton is composed of the hairs surrounding the seeds of various species of *Gossypium*. These hairs when dry exhibit under the microscope a peculiar twisted appearance. The quality of cotton depends on the length, strength, and firmness of the tissue, or, as it is called, the *staple*. For the preparation of lint, long-stapled cotton at about 10*d*. the pound is required.

Flax lint is more cooling to a wound than that made from cotton, as it conducts heat more readily. For the same reason a linen shirt is cooler than a calico one. Flax lint has other points of superiority; it is much softer in fibre than the cotton fabric, and its absorbing power is greater. For many purposes, however, cotton-lint may be profitably substituted for the more costly product. Although it is not liked by the surgical profession, most pharmacists use it in unimportant cases. For wrapping round dental instruments and similar purposes, it is nowise inferior to the best flax lint.

Lint made from linen rags is now seldom seen, though many eminent practitioners prefer it to that made by steam-worked machinery. Six years ago the scraped-linen lint was in general use, and a sad outcry was raised against the patent fabric which had then been but recently introduced. The wholesale lint manufacturer of that day looked to the Jews for a supply of linen rags applicable to his purposes. For these rags he generally paid an exorbitant price. To prepare them for the operative lint-maker, who was invariably a female, the seams had to be cut out, and the ragged and threadbare portions removed. The average loss in weight from this operation amounted to nearly twelve per cent. upon ordinary rags, and to about half that on old sheeting and linen of an analogous description. The rags were then washed thoroughly clean, and cut to the width of the linting machine. Before describing the process of linting, I must call attention to the peculiar structure of the article which it produced. If the reader will take a piece of the old-fashioned lint in his hand, he will find, on endeavoring to pull it to pieces, that he can do so with the utmost ease in one direction, but not in another. On examining it in a strong light, he will see the reason of this. All the threads which run in one direction are but very slightly frayed or scraped, and remain nearly as strong as when they came from the loom; but the threads which run cross-wise are reduced to hairs of infinitesimal thinness—though none are cut through—the rest of their substance being raised into a soft "fluff," which constitutes the lint. The process by which this result was attained has been thus described by a writer in *Chambers' Journal*, to whom we are indebted for several of the preceding facts:

"On visiting the lint-maker at her work, we find her seated in a lofty attic of a dingy house in a back street not far from the bank of the Thames, where the river runs towards Lime-house. In order to get at her apartment, we have to pass through a series of hanging gardens of damp rags, for the most part less than a foot square in size, and which, having been washed clean, are hung out to dry upon the staircase and landing, the weather being 'mizzly' out of doors. From such a manifold demonstration, we conclude that the lint-maker we have come to visit, by introduction of a friend who employs her, if she works for the middleman, works also on her own account, and cultivates a connection. On entering the room, we find her seated in front of the linting-machine, a rude and primitive instrument, about the size of the stool of a banker's clerk, and not a whit more ingenious in its construction. The affair is just the shabbiest of all shabby contrivances for bringing the edge of a sharp blade, about fifteen inches in width, to bear upon a little platform beneath. There is a kind of treadle worked by the foot, which assists the hands of the manipulator in using the knife. Upon the flat surface of the little platform is stretched the rag, or that portion of it undergoing the operation which has to be linted. A simple contrivance keeps the rag partially strained. As the knife hangs in its frame over the cloth, its edge is parallel with one line of the threads, and, of course, perpendicular to the other line. Several of these machines are at work in the room, and the blades are rising and falling with a dull, thumping, scraping sound continually. As the blade descends, it cannot much injure the threads whose course is parallel with itself, for obvious reasons; but it would, being very sharp, cut through the others were it allowed to descend with sufficient force. The force of the descent, however, is regulated by the dexterity of the worker, so that it shall only partly sever the cross-threads; and at every fall, while the knife is down, and its edge imbedded in the partly severed threads, the blade is forcibly shifted in the direction of those threads for a certain small space. It is this horizontal shifting of the sharp and heavy blade of the knife upon the strained rag while it is half cut though, which, by disintegrating those threads that cross the blade at the right angle, and raising nine-tenths or more of their entire substance into a soft woolly pile, produces the lint. It is worthy of remark, that the threads which, lying horizontally with the knife, escape serious injury by the process, render an important service by preventing the disintegrated pile from being detached from the surface of the rag by the violent passage of the blade."

The preparation of lint by steam power has been made the subject of several patents since the above description was written. A suitable fabric is now woven expressly for the lint manufacturer in lengths of 100 yards. This forms the raw material, and takes the place of linen rags. Having been imperfectly bleached, it is sent to the lint-maker, who completes the bleaching, and extracts impurities consisting chiefly of lime and the bleaching agents left in the texture. The cloth is then stoved and wound on rollers ready for the linting process. In the best machines, the pile or nap is raised upon the cloth by knives making upward of 500 strokes a minute. The motion of these knives or scrapers is rotary in some machines and vertical in others. The latter motion is stated to be practically the best, as the knives moving vertically beat and soften the cloth upon which they raise the pile. A good machine will produce about eighteen yards or two pounds of lint per hour. The fabric after leaving the machine is passed through the calender and mechanically divided into pounds. It is then rolled and labeled ready for use.

After having compared several specimens of the new lint with the almost obsolete rag lints, I am at a loss to account for the prejudice which still exists against the former. The machine-made lints possess all the valuable qualities of the older products, are much cheaper, and are sold in regular pieces, which can be cut up without waste. There are certain people who invariably cavil at all improvements, which they scornfully term "new-fangled notions;" and I cannot help thinking that the objections which have been raised against the machine-made lints proceed from some of these lovers of the past.—*Chemist and Druggist, May* 15, 1861.—*Journ. of Pharmacy.*

The Uterine Douche in Galactorrhœa.—After adverting to the well-known examples of the induction of uterine contraction in consequence of excitement of the mammary nerves, Dr. Abegg, of Danzig, calls attention to other cases exhibiting the influence which stimulation of the uterine nerves may exert on those of the breast. In one, in which the infant had to be removed from the breast, and in which none of the ordinary means sufficed to check the excessive secretion of milk, this continuing to inundate the woman for weeks, a tepid uterine douche was employed during a quarter of an hour. Slight bleeding from the uterus ensued, and lasted for a fortnight; and during this time the secretion of milk gradually diminished, the breast decreasing in size proportionally. Menstruation soon afterwards returned, and the woman's health, by the aid of iron, was completely restored. Another case occurred to the author in the person of a primipara, who was prevented suckling her child on account of sore nipples. The secretion of milk continued in excessive quantity during ten weeks after delivery, the woman otherwise being very well. The tepid douche was applied during a week—once a day for the four first, and three times a day for the last three days; bleeding followed the last application. The secretion of milk gradually diminished, and regular menstruation was established.—*Monatsschrift für Geburtskünde*, vol. xvi., p. 425.—*Med. Times and Gazette.*

Subnitrate of Bismuth as an Injection in Acute Gonorrhœa.—Dr. Mouslon, a French Military Surgeon, as the result of numerous trials, confirms the good account given by M. Caby of the efficacy of this treatment. He mixes twenty parts of well-washed bismuth—if not well washed the acid which remains may give rise to irritation—in 200 parts of distilled water, causing as much to be taken up as possible. Some of this is thrown into and retained for ten minutes in the urethra, a local emollient bath being first employed In only the severest cases is the patient obliged to maintain absolute rest for four or five days, after which he is enabled to return to his ordinary habits and diet. The cure, indeed, takes place more quickly under the use of this agent than that of any other. In chronic gonorrhœa success is less marked, and astringent injections may afterwards be required; while in confirmed and obstinate gleet, occurring in a broken constitution, the bismuth is of no use. M. Mouslon appends to his communication an account of a mode of treating painful chordee which he has found very successful. It consists in desiring the patient to sleep on the belly, having first fixed the penis by means of a piece of linen in the fold of the left or right groin.—*Recueil de Mém. de Méd. Milit.*, tome iii., p. 52.—*Med. Times and Gazette.*

On the Application of the Solution of Chloride of Lime to Ulcerated Surfaces.—M. Hervieux, as the result of observations in a wide field of practice, strongly recommends the suppression of suppuration in serious wounds, by means of the constant application of sponge which has been dipped in a solution of chloride of lime, in the proportion of one part to six or ten of water, according to the case. The sponge should be remoistened several times a day. He thus concludes:

1. The permanent application of a sponge imbibed in chlorined water to the surface of severe wounds, transforms them into fresh, vermilion-colored wounds, exempt from fungosities, and from all traces of suppuration. 2. It favors the cicatricial process, which is never more regular, solid, and satisfactory, as when suppuration is completely absent. 3. Among all the disinfectants which have been employed as dressings for suppurating wounds, none is so efficacious as the sponge imbibed with chlorine, since it suppresses the source of fœtidity, viz., suppuration and its products. 4. With the exception of cases in which ulcers are kept up by affection of bone, this application gives rise to no erythema or other irritation of the surrounding surfaces. 5. It is in the treatment of phagadænic gangrene, eschars following bad fever, eczematous or scrofulous ulcers, unconnected with diseased bone, hospital gangrene, laceration of the perineum, and, in general, in all suppurating wounds of a bad character, that this procedure will be found of pre-eminent utility.—*Union Méd.*, 1860, Nos. 127–8–9.

Deglutition as a Sign of Life in Infants who have not Respired.—Dr. Honzé d'Aulnot, consulted concerning a case in which an infant was found dead in a privy, and whose lungs sank on the application of the hydrostatic test, a portion of fæcal matter being found in the stomach, instituted various experiments in elucidation of the subject, in order to prove whether the child was living or not when it was dropped into the privy. From these, it results, in his opinion, that the presence of any foreign body, whether solid or fluid, in the digestive tube of a new-born infant, is a proof that deglutition has taken place; and deglutition being a vital process, life existed at the time of its occurrence.—*Moniteur des Sciences Méd.*, 1860, No. cxiv.

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ESSAYS, MONOGRAPHS, AND CASES.

Virchow's Pathological Views. By Dr. R. K. Browne, Prof. of Physiology in the New York Medical College.

[Read before the New York Medico-Chirurgical College, *June 27th*, 1861.]

Virchow is an epoch-making author, and is justly entitled to the prefix great. His pathological doctrines mark the opening of an era during which they will lead the advance in that field of science. The existence of Virchow's "Cellular Pathologie" is well known, yet apparently but few of the medical world have examined into the purport of its contents; it consists of twenty lectures, which, in 1858, at Berlin, first came from the lips of Virchow. They are reported to have been very convincing to his auditors.

We are not about to present a summary of this volume, but merely a succinct exposition of certain of its portions. It contains but very little matter that, prior to the lectures, had not been presented by Virchow in other publications, and the student of medical science, *au courant* with the contributions made to its literature in Germany for the most recent ten years, will find in the "Cellular Pathologie" but little entirely new or surprising; and in that literature must a fresh presentation of Virchow's researches and discoveries be sought for.* "Cellular Pathologie" imports a pathology in contradistinction to the humoral and solidistic pathology, from both of which it is sufficiently distinct, without, however, involving their entire rejection.

Cell Development.—The leading position of Virchow, contrary to the persuasion of the older pathologists, is in his understanding of the mode of cell-production and transformations. Starting from a denial of *free* cell-production, his explanation of the mode of formation of a pathological tissue is directly at variance with the general view, which is, that free cell-production constitutes the mode of growth of all pathological formations.

The same view was also held undoubtingly with regard to the physiology of normal tissue-growth, until Kölliker made the covert suggestion "that it had been much too readily taken for granted." (*Microscopical Anat.*)

A brief sketch of the essential points of the doctrine of cell-production as they appeared from time to time in its history, rejected by Virchow, will enable those whose studies have not familiarized them with it, to understand Virchow's views of cellular growth, and his use of them in the field of pathology.

Raspail, in 1833, was the first to describe the morphology of the cell, and to give an account of the process of the formation, which he likened to crystallization. He described them as arising in "a liquid tending to organize." Raspail ascribed, therefore, to the cell only an active capacity, while he ascribed to the fluid implied a formative or generative capacity, by which from itself the cells were formed. The latter idea became that of Schleiden and Schwann. But Raspail had done little more than theorize upon the observations which had accumulated in the era preceding him. We owe to Schleiden, the botanist, the first series of observations on which reposed the theory of cell-development.

He studied the process of cell-development as presented in the embryonic stage of vegetable growth. His first observations were upon the capsule which contains the albuminoid substance of the seed, and also the extremity of the pollen-tube, from which the embryonal growth arises. He represented that in both these points a solution exists which first assumes a turbid and then a granular aspect; nucleoli arise from the union of these granules at various points; next around these are found nuclei, (cytoblasts,) and subsequently the cells.

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* Virchow himself informs us of this; our own acquaintance with his researches is recent.

According to this account, the mode of production of the cells is the same as that of Raspail, though Schleiden spoke of its being "the formation of cells within cells;" yet, although the process took place within the large cell or embryonal sac, it is plain that each cell arose separately out of the fluid implied, and that no one of them took part in the reproduction of others. This process is what we now know as free cell-development, and this is the doctrine which Virchow rejects. Schwann followed Schleiden, and made his observations on the embryonic animal normal tissues. He had adopted Schleiden's theory of cell-production. In his examination of animal tissues, Schwann observed in the embryo innumerable cells reposing in a more or less consistent intercellular substance, and towards the production of these he entertained the idea previously announced by Schleiden. He thus assigned to the production of the cellular elements of animal tissues the doctrine Schleiden had alleged with reference to vegetable tissues. In his account of the processes subsequent to the origin of the cells, by which these are transformed into the structure, Schwann was entirely original.

This doctrine of the mode of cell origin in normal tissue was adopted by Johannes Müller in his classification of pathological formations and morbid growths. Müller led in showing that it is under the same law both normal and abnormal growths are developed; and relying upon Schwann's dictum respecting the size of the cells, his own observations were with reference to the processes of their transformation into abnormal structure, or into degenerated morbid products.

The doctrines of Müller in pathology became those of Vogel, Lebert, Rokitansky, Paget and others. None of these reinvestigated Schwann's and Schleiden's doctrines of cell-production, and their researches were limited to the investigation of the various stages of the transformation, by which morbid growths are formed out of cells after these had originated from that blastema. But while the train of pathologists were accepting Schleiden unquestioned, and had accumulated their stores of observations in accordance with the erroneous presumption of free cell-production, the botanists, dealing with normal vegetable tissue, were diligently reinvestigating cell-growth, and in 1844 Hugo Von Mohl brought forward his explanation of the formation of cells in the plant. He affirmed that the production of cells in plants occurred only in the cavities of other cells, (plant-cells.) He differed also materially in his account of the order of the formation of the cell, its nuclei and nucleolus, from that of Schleiden; "not the nucleolus appears first," he says, "but the nucleus or cytoblast." Von

Mohl was soon followed by the investigators in animal tissue, who objected to other points of Schwann's teachings. At length, in 1852, Remak unreservedly rejected Schwann's doctrine of free cell-development, and announced the aphorism—"*Omnis cellula in cellula*"—which became the leading doctrine of Virchow, and the pedestal of the "Cellular Pathologie."

"*Omnis cellula e cellula.*"*

Virchow says, "Just as little as we can now admit that tannin can arise out of sabunal mucus, or that out of the residue of the decomposition of animal or vegetable matter an infusorial animalcula, a fungus or an alga can be formed, equally little are we disposed to concede in physiological or pathological histology, that a new cell can build itself up out of any non-cellular substance. Where a cell arises, there a cell must have previously existed, (*omnis cellula e cellula,*) just as an animal can spring out from an animal, a plant from a plant."

This doctrine supplants that of Schwann; and although Virchow was not the first observer to propound it, yet he has brought to its illustration such a wealth of observation, and has applied it in such sweeping elucidation of the normal tissue and pathological formations, especially the latter, that he is fairly entitled to the credit of being its ablest expositor.

It will be evident that without vacating the theory of free cell-production from a formative substance, plastic lymph or cyto blastema, no radical or important change of our view of morbid products or pathological formations could have been attained to. The true production of the cells in the first instance, and the manner of the multiplication, and various transformations constituting the growth of the tissues, was the most indispensable part of a correct understanding of either normal or pathological tissue development, and Virchow believes with Johannes Müller, that the law is similar for the growth of both these. Until the day of Virchow, the pathologists had supposed the various pathological or morbid developments to be in the first instance a blastema or plasma, exuded from the vessels of the diseased parts, and that this itself was developed by its own capacity with the cellular growth which constituted the new formations. The degeneration of the histological forms constituted the final stage of the morbid products, as pus, etc. It is this doctrine of blastema and cell-growth that Virchow displaces by substituting the histological elements, we shall now describe.

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* Virchow, Beit. Zur. Spec. Pathologie and Therapie., 1854.

Says Kölliker, "free cell-formation is exceedingly frequent in pathological productions, and the cells in pus and in exudations of all kinds arise in this manner; in fact, all pathological cell-formation properly comes under this head." *(Microscopical Anatomy)*

According to Virchow, the great majority of all new pathological formations arise from the excessive and perverted growth of the corpuscles of the connective tissue. Each of these, individually, consists of the cell, its nuclei and nucleoli; the constructive process consisting in all growths, malignant or benign, of the division of their nuclei and their multiplication. Instead of new formations by free cell-development from plastic lymph or blastema of Schwann, or the exudation of the early pathologists, Virchow shows that these growths are produced by hyper-development of the cellular element of connective tissue; the "connective tissue corpuscle" therein, being the active agent of the growth, and the connective tissue itself being the seat of the formation. Virchow has shown that this connective tissue, with its cellular element, the "connective tissue corpuscle," abounds everywhere in the human body, and that it may be regarded as enmeshing all the other histological elements. Its different varieties abound profusely in the brain, liver, kidney, muscles, cartilage, and even the skin and bone; and that whatever morphological changes its cellular elements undergo, they constitute the growth of pathological formations, which, therefore, to repeat, are but a development of the cells of connective tissue, or a degeneration subsequently of its elements.

The cellular element of connective tissue, " the plasmatic cell," is Virchow's own discovery, and he gives the first exposition of its nature and important pathological relations.

Virchow affirms that all, or nearly all, the morbid formations arise within the connective tissue by the perverted growth of these "plasmatic cells," and makes it evident how, by the abundance of this tissue everywhere in the body, pathological formations of the same character arise in different organs, since the same producing cellular elements are equally present in the most widely separated organs.

But this being so, what is Virchow's view of connective tissue? for it is manifest that with our idea of this tissue, we cannot concede to it the functions he ascribes to it.

The histogenesis of connective tissue turns out to be related in the closest possible manner with pathological doctrine, and although recently other investigators had come to suspect that we must look to it for the growth of pathological products; yet, before Virchow, connective tissue was regarded as the most inoperative structure in the body, having none but passive properties. It was said to consist of white and yellow elastic fibres in close combination, with pigment and fat cells.

According to Schwann, the fibres of connective tissue are transformed from cells of the simplest form, which commence the process by assuming an elongated shape, then fasten end to end, and gradually break up into fibres within *the body of the cell*, then splitting into distinct fibrils, so that each row of cells, thus mutually attached by their extremities, is developed into a bundle of connective tissue. The white fibrous bundles are sometimes described as non-cellular fibres, in very intimate conjunction with a homogeneous intercellular material, and sometimes as this very material, disposed in such a way as to present a fibrillated appearance, though not capable of separation into distinct fibrils. Notwithstanding connective tissue from the date of Schwann's researches has been the object of much investigation, Virchow was the first to give a complete and satisfactory account of its mode of formation and the character and history of its elements.

According to Virchow, the connective tissue consists of (1) white bundles; (2) elastic fibres; (3) the "connective tissue corpuscles" or cells and an intercellular substance, the same which Schwann reputed to be the blastema from which the cells were generated. The white fibres arise from the direct fibrillization of the intercellular substance, and while this is taking place some of the cells are transformed into elastic fibres, and others change to fat and pigment cells, recognized by histologists, while others of a spindle-shape, or more or less stellate, remain as a part of the tissue itself. The elastic fibres result from a peculiar change and sclerosis (hardening) of the walls of the cells, which terminate in a disappearance of the cell contents and the obliteration of their cavity. The corpuscles, or plasmatic cells, are described by Virchow as minute corpuscles, sometimes fusiform, but more frequently star-shaped, and joined by means of their branching prolongations, so as to form a net-work similar to that of the structure of bone. These corpuscles and canaliculi, Virchow asserts, are really cellular, consisting of these very elements greatly transformed. As before said, while some of the embryonic cells are assuming their stellate, frequently anastamosing form and others becoming elastic fibres, the homogeneous intercellular substance becomes fibrillated, and the whole series constitutes the connective tissue. By their capacity of division and multiplication, the "plasmatic cells" produce all pathological growths, whether malignant or benignant; the only distinction there is between these two being established by the kind of irritation or excitation in the part, to be explained further on—instead, therefore, of finding the origin of new formations in plastic lymph, blastema, or organizable exudation from the blood-vessels and free cell-growth within it, Virchow substitutes for the plastic lymph, the blastema of the earlier and the plasmatic exudation of later authors, connective tissue, and especially its cellular element—"and directly traces to it the development of new formations, except epithelial formations and a few others." Virchow's doctrine, therefore, of the origin of pathological growths turns upon the fact that these cells have the function *or power of multiplying by division and originating blood of secondary cells*, in virtue of the irritation their subsequent action *supposes*, and that the developments of these cellular elements, with their outgrowths, or final degeneration, as in corpuscular lymph, pus, tubercle, constitute the vast majority of pathological formations, which are therefore growths of connective tissue. But it is not alone the cellular element of the connective tissue, but other parts of the tissue—in structural development of the cells—also undergo changes, degeneration, &c., &c.

But if the cellular elements of connective tissue are the active constituents of pathological processes, what is the inducing or exciting physiological cause of these processes? This, of course, is only to be sought in some relationship of these to external influences, and is found in the phenomena of irritability, induced when some cause of irritation acts either directly or indirectly through the medium of the blood upon the part, the normal state of which is thereby so altered, that it absorbs and attracts to itself from the parts around it a larger amount of matter than ordinarily.

Irritability.—Irritability pertains to the phenomenal history of every living thing, and "it is," Virchow says, "the very criterion of life." "Vital activity is, in so far as we are able to judge, nowhere, in no part whatever, carried on by means allotted to it in the beginning, but we everywhere see that a certain excitation is necessary for its production;" and accordingly, whenever a particular action is called into play, we have to deal with a manifestation of the function, the nutrition, or the formation of any part.

Irritability, therefore, is distinguished by Virchow into functional, nutritive and formative, and either of these may alone exist, or they may coexist. The action of the elements of a part may, therefore, be displayed either in the promotion of its function, its nutrition, or its formation.

The first is displayed in the performance of the normal functions; a muscle contracts, or a gland secretes, although this may be excessive, and is then considered morbid. It is to be noticed that the influences which induce the functions are various, and are not indifferent. They operate under a law of specific relation or affinities between them and the elements of the parts.

Nutritive irritability is of much more interest to the pathologist than functional. It is manifest when the nutritive activity of parts is augmented, and is defined by the conditions in which there is an increase in the size of the cells of the affected part, but no *new formation* of the cellular or other histological elements. Thus, in Bright's disease, the renal epithelial cells enlarge merely by excessive nutritive absorption. Their contents become turbid, and the tubules broadened. "If we draw a thread through a cartilage so that merely a traumatic irritation is produced, we see that all which lies close to the thread becomes enlarged through an increased absorption of material."—P. 298. This turbidity of the cells of the part and increase of their dimensions constitute a form of corneal opacity.

Finally, formative irritability is exhibited in a marked multiplication of the number of the constitutive elements. It follows nutritive irritability. In it, we find that the cellular elements, shortly after they have experienced the nutritive enlargement, exhibit further changes, which begin in the interior of the nuclei. The nucleoli become remarkably large, sometimes oblong, and sometimes staff shaped. Then the nucleoli become constricted in the middle and assume the form of a finger-biscuit, and a little later two nucleoli appear. "About such a divided nucleolus, the finger-biscuit-like constrictions, and afterwards the real division of the nucleus, also take place. This may be repeated, so that three or four nuclei arise. If now we advance a step further in these processes, we come to the new formations of the cells themselves."—P. 310.

Groups of many cells arise by the continuation of this process from single ones; and in this mode of cell-production, and of these groups, consists morbid tissue growth. Their subsequent transformations and degeneration constitute the final form of the pathological product. Coincident with either of these forms of irritation may exist vascular or nervous disturbance, but they are never the inducing cause of them; "for," says Virchow, "all these forms of irritability may appear in parts not known to possess either nervous or vascular elements."

Inflammation.—In inflammation we have all three forms of irritation. In traumatic injury of muscle, for instance, we have nutritive and functional disturbance; and in inflammation of interstitial connective tissue, we have new formations and degenerations, pus, etc.

Inflammation divided.—There are two distinct forms of inflammation, but to Virchow there is no such thing as inflammatory exudation. The morbid product arising in the inflamed part is composed of material which has been generated there from the materials already there, and not deposited there from a separate source.

First, there is a purely *parenchymatous inflammation*, within the tissue, and presenting no free fluid. The cellular elements of the tissue are increased in dimensions and filled with abnormal matter. And, second, there is a *secretory (or exudative) inflammation*, belonging mostly to the mucous and serous surfaces. In these, the abnormal cellular product forms on the surface, attended with an increased amount of fluid.

That he has correctly conceived these cases, Virchow says, is shown by the fact that they occur in different organs. The *secretory inflammation* effects the formation of fibrin upon surfaces or in cavities, or the production of masses of mucus upon mucous surfaces; for just as the mucus is the product of the membrane carried out upon its free surface by means of the saline and watery matters of the blood, so also the fibrin, (or coagulable lymph,) instead of being a transudation from the blood-vessels, the work of vascular action, is a local product of those tissues on, and in, which it is found, and reaches the surface in the same way as the mucus of the mucous membrane.—P. 392. Absorption of the fibrin thus produced into the blood causes the increased quantity of fibrin there in inflammatory fever.

"The fibrinous crasis, therefore, is the product of local disease."

Instead of the cellular elements, *i. e.*, pus or mucous corpuscles, arising from the blastemas exuded, they are produced by the plasmatic cells, or are of a tissue corpuscle of the seat of the inflammation.

"*Parenchymatous Inflammation.*"—In parenchymatous inflammation, all the fluid transuded from the blood-vessels is absorbed by the cells of the parts involved, although the production of new elements may occur, or various degenerative changes may occur, (as fatty degeneration.)

The commencement of inflammation, therefore, is not in a peculiar action of the vascular or nervous tissue, but in that of the cellular elements of the part involved; and the hyperæmic condition of the vessels is not the cause of the local inflammation, but a consequence of the abnormal growth of the irritated elements of the tissues. Stop, or reduce the supply of blood, and you cut off the food which feeds their growth. "If," says Virchow, "we cut off or diminish the supply of nutritive matter, we must, of course, prevent the part from absorbing more than its wont."

Formation of Pus.—Virchow distinguishes two modes of pus-formation, according as pus proceeds from epithelial or from connective tissue.

If from the former, the pus-cells are produced by the multiplication of the cells of the younger strata of the epithelium, (*e. g.*, the rete Malpighi of the skin.)

Says Virchow: "The more deeply-seated pus formations regularly take place in the *connective tissue.* In it, then, first occurs an enlargement of the cells, (connective tissue corpuscle,) the nuclei divide, and for some time multiply excessively. This first stage is then very soon followed by divisions of the cells themselves. Round about the irritated parts, where before single cells lay, pairs or groups of cells are subsequently found, out of which a new formation of an homologous kind (connective tissue) usually constructs itself. More in the interior, on the contrary, where the cells were early abundantly filled with nuclei, heaps of little cells soon appear, which at first still preserve the direction and form of the previous connective tissue corpuscle. Somewhat later, we here find roundish collections, or diffuse infiltrations, in which the intermediate tissue is extremely scanty, and continually liquefies more and more in proportion as the proliferation of the cell extends.* After the abscess produced by such a process discharges, it is healed by granulations, for the formation of which it is essential that the intercellular substance should not be entirely liquefied. The difference between the suppuration and the granulation is, that in the former, the degenerative process exceeds the formative; while the reverse is the case in granulation. In the former, the intercellular substance, which is the residue of the cells, liquefies and deprives them of further capacity of multiplication. It is an error, therefore, to attribute ulceration to the corrosive properties of pus.

"Pus is not the dissolving, but the dissolved, *i. e.*, the transformed tissue." The old structures heal up and disappear in the process of producing the new ones. The product of the cell multiplication takes the place of the previous tissue, and the ulcer will continue to increase in its size so long as this excessive cell-proliferation continues. The newly produced elements arise from prior ones which cease their structural character in the very act. So by a similar process in the production of morbid growths, the elements of the new growth arise out of the connective tissue corpuscle of the diseased tissue. Hence Virchow decides that "*there is a stage* when it is impossible to ascertain indubitably whether we have in a diseased part to deal with simple processes of growth, or with the development of a heteroplastic form." —P. 454. For "the first development of cancer, of cancroid, and of sarcoma, exhibits the same stages; if the course of their development be traced sufficiently far back, we at last come across a stage in which, in the younger and deeper layers, indifferent cells are met with, which do not until a later period, according to the particular nature of the irritation to which they are exposed, assume the one or the other type."—P. 454.

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*Cell. Pathologie, p. 451.

In this view it is plain how microscopists have differed in the diagnosis of cancer.

Virchow classifies the new formation as heterogeneous and homologous; both, though they differ, are equally abnormal.

"Heterologous we may call not only malignant, degenerative neoplasms, but we may also thus designate every tissue which deviates from the recognized type of the part; whilst we should call all that homologous which, though new formed, still reproduces the type of its parent soil. Thus, the cells of pus are heterologous, because they differ from the normal parent cells by the proliferation of which they were produced; but tissues may be heterologous though they do not vary from physiological types.

"There is," says Virchow, "no other kind of heterology in morbid structures than the abnormal manner in which they arise, and that this abnormity consists either in the production of a structure at a point where it has no business, or at a time when it ought not to be produced, or to an extent which is at variance with the typical formation of the body."

Heterology, we are warned, must not be identified with malignity.

Malignity.—Cancer is malignant, not "because it contains heterologous cells, nor cancroid benignant because its cells are homologous; they are both malignant, and their malignity differs only in degree." For "(enchondromata) which were formerly described as unquestionably benignant, sometimes occur in soft, and rather gelatinous forms, which may occasion just such internal metastases as cancer."—

P. 486. And sarcomata may "appear secondarily in the lymphatic glands, and in many cases occur throughout the whole body, metastatically, to such an extent that scarcely any organ is spared by them." —P. 487.

Morbid growths may infect other organs than where they arise in either of two ways. On the one hand, their cellular elements may pass into the blood, which rarely happens; or on the other, vitiated fluids of the part first affected may pass into the venous or lymphatic system, and reach some part where they may excite the same action as occurred in their production.

A special blood disease giving rise to tumors is not admitted; but particular substances, it is admitted, may find their way into the blood, and induce particular morbid changes in individual parts by their being taken into them in virtue of a specific attraction between these parts and substances.

Very interesting to the surgical pathologist will be his account of the recurrence of certain morbific growths after extirpation.

"If we examine any proliferating tumor, of a cellular character, we often find from three to five lines beyond its apparent limits the tissues already in a state of disease, and exhibiting the first traces of a new zone. This is the chief source of local recurrence after extirpation, for it proceeds from the zone, that cannot be detected with the naked eye, beginning to grow in consequence of the increased supply of nutritive material, which results from the removal of the original tumor. No new deposit from the blood takes place there, but the new-formed germs, which already lie in the neighboring tissue, run through their further development in the same manner that it would otherwise have taken place, or perhaps still more quickly."—P. 458.

But notwithstanding Virchow rejects the ordinary distinction of malignant and benignant tumors, and affirms the similarity of their source and of the character of their histological elements and their various transformations, yet he affirms that sooner or later there are differences, that the microscope can readily be applied to detect. Accordingly, he proposes that their classification be based upon their microscopic anatomy.

His views of the genesis of tubercle are peculiarly original. What we know as the miliary form alone is truly tubercular, with which, however, he classes the bodies found in the arachnoid, and which have been denied a tubercular character, because they contain cells.

Regarding these he says:

"You will generally find the tubercle in the brain described as being solitary, but they are not simple bodies; every such mass (tuber) which is as large as a small apple, (1 in.,) or even not larger than a currant, contains many thousands of tubercles. It is quite a nest of them, which enlarges not by the growth of the original form, but rather by the continual formation and adjunction of new foci at its circumference.

"If we examine one of these perfectly yellowish-white, dry cherry tubera, we find immediately surrounding it a soft vascular layer, which marks it off from the adjoining cerebral substance, a closely-investing areola of connective tissue and vessels. In this layer lie the small young granules, ('miliary tubercles,') now in greater, now in less number. They establish themselves externally, and the large tuber grows by the continual apposition of new granules, of which every one singly becomes cheesy."

But tubercle has its origin or growth in the cells of connective tissue; it is formed of a mass of cells rich in nuclei, by a process of cell-proliferation, similar to that for pus. It is distinguished from the latter, and also from the more highly organized forms of cancer, which are formed of large corpuscles, with highly developed nuclei and nucleoli. Tubercle is also developed out of the histological elements of connective tissue, by a process of degenerative cell-proliferation. By the profusion of its growth the nutritive supply is cut off, and then it shrinks and assumes its disintegrated cheesy state. But pus or cancer may undergo a similar metamorphosis, contrary to Sebert, who believes the corpuscles found in the centre of tubercle "to be the first bungling products, unfortunate essays of organization." Virchow affirms that they are formed out of matured elements, by shriveling and fatty degeneration. When a large tubercle corpuscle is found, "a cell had previously existed," and similarly when they occur in cancer, which similarly undergo cheesy metamorphosis; they represent that degenerated form of cancer-cells and nuclei; and so pus also undergoes cheesy metamorphosis, and its corpuscles are shriveled pus-cells. In all these the ultimate character of the bodies is the same.

We come now to a subject which has been much discussed since the appearance of the "Cellular Pathologie." No pathologist before, since the time of Cruveilhier, who was the first to accurately describe the coagula found in blood-vessels, has found a satisfactory account of their origin and history. This Virchow does, in his doctrine of thrombosis, the process by which a coagulum of blood is formed within the vessel. According to Virchow, soon after the formation of these *thrombi*, their fibrin breaks down and becomes granular. The corpuscles lose their coloring matter, become crenated, and afterwards almost entirely disappear. A yellow-white, puriform liquid appears, in which the partially altered white corpuscles remain.

This fluid is not pus, although it appears so superficial; nor is the process suppurative, since it occurs in vessels in which no signs of inflammatory action are found. Thrombi may coexist with phlebitis; or, on the other hand, inflammation of the vascular walls "may unquestionably exist when the current of blood within the vessels of the affected part is perfectly free and unobstructed." But according to Virchow, in arteritis or phlebitis, the morbid products are formed in the walls of the vessel, and not in its calibre.

The thrombus is frequently confined to the seat of its origin, extending as far as in the next large vessel, into which it empties; but frequently the deposition of layers of coagulum may prolong it beyond the mouth of the branch into the trunk, in the same direction with the current of the blood. Now portions of this may be detached by the current and carried into the general circulation, constituting emboli. If thus set free it will be carried along the venous channels to the heart, and thence proceeding in the pulmonary artery, will be detained in one of its branches. This detention will of course exclude the supply of blood to the tissues fed by the vessels.

It is from these data that Virchow accounts for these metastatic abscesses, which have been generally thought to denote pyemia.

"If," he says, "ulceration takes place in one of the valves of the heart, not by means of the formation of pus, but in consequence of an acute or chronic softening, crumbling fragments of the surface of the valve are borne away by the stream of blood, and reach with it far distant points, as the spleen, the kindeys, etc."

It is of course denied by Virchow that such metastases originate in the introduction and conveyance of pus in the blood. He denies its absorption; but he admits that corrupted juices may enter the blood, and lay hold upon certain points, for which the former has a special affinity. (See previous page.)

It is supposed by Virchow that in this latter way another class of metastases besides those attributable to emboli are caused. To this class belongs that metastatic pleurisy which develops itself without any metastatic abscess in the lungs, and that seemingly rheumatic articular affection in which no distinct deposit is found in the joints; and further, that diffuse gangrenous inflammation of the subcutaneous tissue which cannot well be accounted for, unless we suppose a more chemical mode of infection.

Besides the foregoing, the volume entitled "*Cellular Pathologie*" gives the intimate anatomy and the physiological and pathological relations of the nervous system, and a classification of other normal tissues; the subject of nutrition; fatty, amyloid, and other forms of degeneration; while a large portion of it is occupied with an account of Virchow's observations of the process and transformations in growth of a normal kind, and these should be understood in order to estimate the value of the pathological doctrines. An analysis of these must be reserved for a future occasion, and opportunity recurring, we shall do our best towards a *résumé* of Virchow's observations in these departments, reserving until then any intimation of dissent. The doctrines can be invalidated only by deciding the incorrectness of the data upon which they are founded, and this is the province of the microscopist. If the data be true, the dissidence which has from the earliest dawn of medicine prevailed with regard to every feature of disease must disappear, and empiricism in pathology give place to the previsions and principles of science. We are ourselves in great measure, like Virchow's early auditors, convinced. Comment upon the doctrines is valueless except by those who have an equal degree, if not extent, of proficiency with Virchow in pathological observations. We accord our conviction, that at no time has a volume in medicine with scientific pretensions at all to be compared to those of the "Cellular Pathologie" appeared. Nothing can exceed the easy mastery Virchow has shown over the details of all the subject, nor the evidence of ability to cope in a truly scientific manner with the great problems everywhere encountered on the field of pathology. At every step he has transcended the *rôle* of the mere observer with the barren accumulation of fact, and has given us their *rationale.* Few observers, especially in the world of medicine, ever seem to have had any conception that nature furnishes us with the facts or phenomena alone, and not the *philosophy* of them; *that* must be developed in the mind of the observer; the only difficulty in the case being, that the philosophy must be *that* of the facts, and not a philosophy or speculation discordant with them.

This service Virchow has competently striven to render to the scientific student, and he will probably stand hereafter as the first author in the long list of periods who has succeeded in doing in anything like the same degree or to the same extent—a *scientific* work in pathology. He has signalized his difference in these respects from all the other observers in the most fundamental way; passing, by dint of nice critical acumen, beyond the mere fallacious interpretation which so readily springs to the natural mind on the observation of facts, to that relationship between them which, once detected, furnishes the needed criterion of the truth or falsehood of the significance we at first sight assign to them.

Medicine, no less than pathology, is replete with such fallacies, and its professors must learn that philosophy as well as observation, intellectual resources as well as industry, are equally needed. Indeed, it is no more true that philosophy is at fault in medicine than it has been in natural history or mathematics. All the sciences equally receive their gains not from the mere collator of facts, but from the student of intellectual resources, who comes in the order of the method of discovery and investigation after the other, and employs his time and capacities in *using* the facts brought by the former. Whence now does he acquire his philosophy? Certainly not from the facts or phenomena given by nature, for these are solely the *subject* of his intellectual activity or life, but from some interior source, internal to himself, and not furnished by any fact of nature. Of course, as we just said, his philosophy must involve the facts, and consequently presupposes them; but it *supposes* also an evolution of powers which belongs to him, and constitutes the difference between him and the mere collator of facts, whose apprehension of them may be proved, on analysis, to be a confusion, and whose bungling attempts at elucidation will be a blunder. Considered in this view as to the rank and importance of his work, we reaffirm our starting sentence, that Virchow has opened a new era in the science of pathology; and whatever modifications or corrections his work may undergo, they can be made in no other way than on the principles and by the methods he has himself so ably employed.

It is evident to us that the cellular pathology has given a new impulse to the investigation, and that it will induce nothing less than a very thorough revision, of the present accounts of the histology of the animal tissues, and that in this work Virchow himself may be expected to go further than he has yet attained in the results of micrology. A single casual observation, induced by his account of the connective tissue of the body, has led to some results, which, with improved optical means and appliances at our command, we hope to verify. Sufficient is known to justify the belief that the genesis of muscular fibrillæ will be found to be allied, with some modifications, to the formation of the connective tissue corpuscle.

Report on the Clinic for Diseases of Children, held in the New York Medical College, Session 1860–61. By A. Jacobi, M.D., Professor of Infantile Pathology and Therapeutics.

(Continued from July No., p. 33.)

151. James McJ., æt. 13 years. *Typhus Abdominalis.* Patient is reported to have been sick for ten or twelve days; premonitory symptoms, such as loss of appetite, feverishness, headache and sleeplessness, preceding. He looks exhausted, emaciated, and stupid; eyes sunk; vertical wrinkles on his forehead; lips dry, parched, and covered with a layer of a thick black mass; tongue and gums covered in a similar manner; respiration hurried, 44; mucous râles all over the chest; no dull percussion sound; impulse of heart and arteries feeble; pulse accelerated, 140; liver normal, spleen enlarged; copious and frequent passages of yellowish-green, sometimes bloody masses; pain in the ileo-cœcal region. Fever is always increased in the night. Delirium will set in early in the afternoon and continue to the following morning, with but few and short interruptions. In these lucid intervals the mental faculties of the patient are very low; his comprehension clouded, and his answers very slow, and often erroneous. The case presented, therefore, is one of a severe form of typhoid fever, such as usually met with in advanced, but seldom in infantile or juvenile age. Typhoid fever is generally a mild disease in early age; neither the symptoms nor the pathological alterations found at post-mortem examinations, nor the mortality, being at all similar to those observed in advanced age. Real typhoid ulcerations are seldom met with; the patches of Peyer will often be found infiltrated; but generally but single follicles will be affected, and their infiltration will be absorbed, or the follicle, bursting into the cavity of the intestine, will return to its normal condition without any cicatrization taking place. Ulcerations and pseudo-membranes on the mucous membranes of the pharynx, œsophagus, and larynx are rare exceptions, although others are on record similar to that of Dr. Mall, in which on and after the eighth day of the disease, in a little girl of six years, pseudo-membranes showed themselves on the mucous membrane of the nose, and went down into the larynx, mouth, œsophagus, stomach, intestines, and vagina. I have myself been present at the examination of the body of a girl of four years, in which the whole length of the œsophagus was covered with pseudo-membranes to such an extent as to nearly fill up its lumen.

Of the symptoms of typhoid fever in early age the most important are the enlargement of the spleen, diarrhœa, and meteorismus, but they are not always found. Fever, accelerated respiration, and bronchial catarrh are often found, but are not pathognomonic. Intestinal hæmorrhages and chills are rare occurrences; deliriousness, somnolence, and nervous symptoms generally are not frequent. Eruptions on the skin, being so frequent in adults, are rarer in this age. Severe complications, as parotitis and phlebitis, are uncommon; but during convalescence complications are found oftener than in adults, with other exanthematous diseases, as variola, varioloid, morbilli, and scarlatina. The usual termination of infantile typhoid fever is greatly more favorable than in adults, although its duration is not confined to certain limits; sometimes a few weeks, sometimes several months being necessary for its full course. The prognosis, therefore, is usually a favorable one, inasmuch as the symptoms are not very severe and exhausting, and the local anatomical alterations are not of such a character as to imply severe and obstinate consecutive diseases; but it will greatly depend on the nature of the epidemic, the circumstances of the patient, the age (patients from the first to the fourth year of life being more liable to die) and the sex, (males being more severely affected.)

It is a curious fact that sometimes there will be found epidemics of typhoid fever, in which adults and children will suffer in equal proportions; others in which adults, others again in which children will be affected almost exclusively. Of the cases collected by Prof. Lebert, ten per cent. occurred in individuals under fifteen years of age. In but very few of these severe pathological alterations were found; in a number none at all; even at the age of fifteen the local intestinal changes had not taken place. Nevertheless, all these cases were undoubted cases of typhoid fever. The case before us is evidently one of a severe nature, the symptoms being those of unmistakable typhoid fever, as found in adults. As the patient is already now, in the first period of the disease, nearly exhausted, his fever very high, and his nervous power very low, the prognosis is pretty unfavorable. There is scarcely any hope without his being sent to a hospital, where his strength can be better kept up and his system generally be better supported than under his present circumstances.

152. Francis G., æt. 2 years, 6 months. *Catarrhus Gastro-Intestinalis. Febris Remittens.* Patient has been well until, some six weeks ago, he fell sick with a number of symptoms, attributed to the influence of "cold." He coughed, was feverish, his respiration was shortened, hurried, and his chest appeared to be sensitive to the touch.

There cannot be a doubt but that the case was one of inflammatory disease of the lungs. Patient appeared to rally a short while afterwards, but never recovered his former strength and general condition. He remained pale, restless, and feverish; his skin became dry and pale, a scanty desquamation of small scales taking place from time to time. His bowels became irregular, having three or four passages of greenish, or mucous, or serous masses, very seldom tinged with blood. His appetite was bad; no particular food relished in preference to any other kind; thirst increased, especially in the afternoon and during the night. Pulse is accelerated; at 4 P. M., 136; respiration superficial, but its number is proportioned to the pulse—40. Child very much emaciated; cheeks and eyes sunk; veins of temporal region swelled; face a little flushed. Extremities very thin, the skin hanging loose and flabby over the bones. Abdomen inflated, a little sensitive to the touch. Percussion yields a tympanitic sound all over its surface. Examination of the thoracic organs shows no anomalies whatsoever; respiration is very superficial, from the general muscular weakness of the child. Respiratory murmur vesicular, with the puerile modification of this age; percussion sound sonorous. The fever is said never to leave the patient entirely. It is highest in the evening and night, less in the morning, and will begin to rise again early in the afternoon. Thus, it bears the characteristics of what is called remittent fever, and this is the diagnosis with which patient, who has been under medical treatment for some time, was presented for advice.

We are in the habit of applying the term of remittent fever to a feverish disease in which the principal symptom, the fever, shows some peculiar characters. As in this case, it will never be absent; but while the lowest rate of pulsations will be from 80–100 in the morning, it will rise to 120–140–160 in the afternoon, evening, and night. At the same time the temperature of the skin is increased, cheeks flushed, and thirst intense. It has been stated as a characteristic of remittent fever, that it is very obstinate, and will resist the action of medicinal agents for some length of time; others have considered it as kindred to intermittent and typhoid fever, its nature being considered to be eminently malarious. Others, again, have sought for the seat of remittent fever in disorders of the intestinal canal, catarrhs of the upper or lower portion; and a number of authors describe the abdominal symptoms in preference to any other. Rilliet and Barthez have even discarded the name of remittent fever, preferring that of gastro-intestinal fever; they evidently being of the opinion that the local symptoms pointing to a disease of the mucous membrane of the intestinal canal, and especially its follicular apparatus, are of prevailing importance. Moreover, a number of cases of inflammatory diseases of the thoracic organs, general, and peritoneal, and meningeal tuberculosis, have been described as remittent fever; and certainly the more obscure a disease is, the more inclined we shall be to consider one of the prominent symptoms as the real disease. The principal symptoms of what is mostly described as remittent fever, such as high temperature, vomiting, loss of appetite, thirst, furred tongue, in fact, the whole number of "gastric" symptoms, will be found more or less in every feverish disease, and most in such the nature of which is so severe, and the danger so imminent, that it is of the utmost importance to arrive at a correct diagnosis at once. A very minute examination of the thoracic viscera, and careful attention to meningeal and cerebral symptoms, will generally correct the diagnosis; but a number of pulmonary inflammations and brain diseases have certainly been mistaken for remittent fever. Tubercular meningitis, particularly, is often mistaken for some gastric or intestinal disorder, vomiting being one of the first and most constant symptoms; even the well-known picking of the lips and nose is found in tubercular meningitis, though it is believed by the public to be pathognomonic of "worm disease," and found present by physicians in all and any diseases of the gastro-intestinal canal.

Diarrhœa is not at all a constant symptom of remittent fever, costiveness taking its place sometimes in the descriptions given by the authors. There are even a large number of cases in which there are said to be no prominent gastric or intestinal symptoms, but which are attributed to malarious influences, as above stated, and would be called intermittent fevers, but for the absence of intermission in the fever. There are others, again, which are described with the symptoms of typhoid fever, but distinctly stated not to be typhoid, but remittent. We know, however, that the range of the symptoms attending typhoid fever, particularly in early age, is very large, and their severity very different, and that there is no reason to change the name of a disease just because there is not such an assemblage of fearful symptoms as we sometimes find. We further know, that there is scarcely any disease, which, notwithstanding all its regularity, will, in infantile age, exhibit so many differences as intermittent fever, either as to the time and duration of the attack, or the prominent symptoms. Pulmonary and cerebral symptoms are not unusual in intermittent fever in children; the stages of the attack differ greatly, and their time and duration are not certain. Thus, if we feel inclined to believe in the existence of remittent fever, as kindred in nature or appearance to typhoid and intermittent, we really do not know where the one commences and the other ends. Some unmistakable characteristics ought to be found in every complex of symptoms which is to deserve the name of a disease in the indices of our text-books. Had we a right to give the same name to a symptom, prominent though it be, which may be equally found in intermittent fever, typhoid fever, acute gastric catarrh, intestinal catarrh, first stage of pneumonia, tubercular meningitis, rheumatic fever, and, in fact, all such diseases as are apt to last for some time, and be connected with a protracted and high fever? It appears to be more rational, and more in conformance with the anatomical tendencies of our age, to regard the remittent, as any other character of a fever, as depending on the nature of the anatomical lesion. This century has long endeavored to get rid of those entities called diseases, the seat of which nobody knew, nor cared for; unless we have a positive anatomical lesion by which a fever like that in our case can be explained, we have no right to take it as the essence, the principal nature of a disease; and even if we consider remittent fever as a malarious disease, belonging to the class of intermittent and typhoid fevers, we shall scarcely be justified in resorting to the assumption of a new name, for symptoms which are not new, nor different in their nature, but are slightly at variance with what we generally see. We ought not to forget that nature is not so uniform as our knowledge, ideas, and prejudices.

I therefore believe that, in some future time, the term of remittent fever, at the head of special chapters, will no longer be found. As to our case, we have no reason to assume any other cause of the fever, emaciation, and exhaustion of our patient, but the protracted and general catarrh of the intestinal mucous membranes; preceded, moreover, by an inflammatory pulmonary disease, which itself had its share in the anæmic and weakened condition of our patient. To give antifebriles in such a case, without attending to the local lesion of the gastro-intestinal canal, would prove unsatisfactory. The stomach would scarcely tolerate, at all events would not digest, remedies given in sufficient dose to check the fever, if it could be thought possible to remove the fever without getting rid of its cause. The indications are clearly these: 1, To suppress the catarrh of the mucous membrane of the intestine; 2, To improve the digestive power of the stomach, which is also in a catarrhal condition; 3, To improve the general condition of the child by digestible food. Treatment: According to the child's appetite and its expected improvement, beef-steak, raw beef, beef-tea, milk, nitrogenous food generally. ℞.—Subnitrat. bismuth., ʒj.; sulph. quiniæ, gr. xviij.; acetat. plumb., ℈j. M. f. pulv. Div. in p. æq. No. xxiv. D. S.: Four powders daily; and Pulv. Doveri, gr. iss., every night. The child improved considerably in the course of a week, diarrhœa disappearing, appetite returning, and sleep being sounder and less disturbed. Exactly the same treatment was followed up for two or three weeks, with perfect success.

153. Sarah Jane H., æt. 3 years. *Palatum Fissum Congenitum.* Patient is presented for the entire absence of articulation, the cause of which anomaly is readily found on the first inspection of the mouth. The soft palate is cleft in its median line from the posterior margin of the hard palate down to the uvula, which is divided into two equal halves. The child being well developed otherwise, no other cause of the anomaly complained of need be sought for. Artificial junction of the two halves of the soft palate is evidently indicated. But the operation of staphylorraphy is such a difficult and tedious one even in the adult, requiring an unusual amount of self-control in the patient, that it cannot be thought of before the patient has attained a certain age. We are not, however, deprived of all means of curing this defective development, since the French medical literature has presented us with a pamphlet of Dr. Cloquet's, in which this eminent surgeon publishes his experience of curing congenital cleft palate by means of the solid caustic. He publishes a few cases in which he succeeded, by frequent cauterizations of the ununited margins in their whole length, in bringing about granulations, and finally cohesion and a perfect cure. The same plan has been followed by me in the case of a vesico-vaginal fistula, operated upon in the usual way with but partial success. A fistula of about a quarter of an inch remained unclosed after the removal of the silver wires; it has been cauterized five times since, in intervals of from four to five weeks only, with a very good success, taking into account that the vesico-vaginal wall is a very thin one in this case; with such a success, indeed, that now already the lady is enabled to hold her urine for hours. We, therefore, may expect this case to be a fit one on which to try the method alluded to; the intervals between the single cauterizations having to be shorter than in the case of vesico-vaginal fistula, in which a new cauterization was not resorted to before it was certain that no further improvement would take place after the preceding one. (Up to the day of writing this report, during a period of three weeks, cauterization with the solid caustic has been performed three times.)

154. William S., æt. 2 months. *Stomatitis. Parotitis Secundaria.*

A slight swelling has been noticed in front and below the left ear, for two weeks; it has gradually increased, until the lobe of the ear appeared turned outward and elevated, and the face was greatly disfigured. Fever pretty high; patient salivating much; mucous membrane of mouth and pharynx injected and swelled, and covered with a large number of superficial ulcerations; odor, fœtid. Treatment: ℞.—Iodid. sodii, ʒss.; chlorat. sodæ, ʒiij.; aq , ℥jss. M. D. S.: Half a tea-spoonful three times a day. Further: Tinct. iodin., externally, twice a day.

155. Walter H., æt. 8 months. *Catarrhus Meatus Auditorii Externi.* No perceptible cause, except uncleanliness, and the child at the same time being in the full progress of general development. Treatment: Injections of water, and of ℞.—Sulphat zinci, ℈j.; aq. ℥iv., four times a day.

156. Mary M., æt. 9 years. *Otitis Sinistra Interna. Surditas.* Muco-purulent discharge from the left ear. Tympanum gone, and discharge seen to fill the external ear. Patient suffers from this discharge and consecutive deafness since a severe attack of malignant scarlet fever, three years ago. Prognosis as to recovery unfavorable. Treatment to consist of mild astringents, locally. Acid. tannic., gr. iv. to aq ℥j.

157. Adelaide P., æt. 2 years, 2 months. *Conjunctivitis Scrophulosa. Blepharospasmus.* Examination could not be made, except under the influence of chloroform. Conjunctiva much injected and swelled; submucous tissue thickened; margins of eyelids tumefied; phlyctæous ulcerations, most of them collapsed and healing, on the conjunctiva scleroticæ; photophobia intense; cornea not affected, although the process has gone through a course of six months. Treatment: Cauterization of conjunctiva with solid nitrat. argenti, and neutralization by means of chloride of sodium; and embrocations to eyebrows, temporal and frontal region, four or five times a day, of a particle of the following ointment: ℞.—Ungt. hydrarg. ciner. fort., ʒij.; extr. belladonna, ʒss. M. f. ungt.

158. John K , æt. 2 years. *Conjunctivitis Trachomatosa.* Both eyes affected. Treatment: Cauterization with the solid caustic and neutralization.

159. John McM., æt. 2 years, 9 months. *Abscessus Galeæ Aponeuroticæ.* Four large abscesses on the head of a healthy boy, after a similar one in the submaxillary region had broken and healed up. Incision.

160. James C., æt. 6 years. *Catarrhus Laryngis.* Patient has had scarlet fever four months ago, there being still the signs of diphtheritic ulcerations on his tonsils. Mucous membrane of the pharynx

thickened, and still livid. Auscultation and percussion give normal results. Patient feels well; is hoarse, but coughs from time to time, especially after awakening early in the morning. The objects of treatment are reduction of mucous membrane and submucous tissue to their normal condition, and suppression of the superabundant secretion of mucus. Treatment: ℞.—Extr. cubeb. æth., ʒjss.; syrup. simplic., ℥j. M. D. S.: Half a tea-spoonful three times a day, and the external use, over the larynx, twice a day, of tinct. iodin.

161. Ellen McC., æt. 7 years. *Dentes Anomali. Caries. Herpes Circinnatus*, (on left shoulder.) The right central upper incisor was protruding from the gums in its whole length, the root being unabsorbed, but the whole tooth, as far as it is uncovered, carious. Behind it the permanent tooth has cut long ago. It is extracted, as is also the left central incisor, which is carious, although no permanent tooth is visible. In this one the root is already absorbed, proving that the corresponding permanent incisor was in its right place directly above and exercising the normal, slowly absorbing pressure, whereas in the former case the permanent tooth had been pressing the deciduous incisor from behind forward. Ring-worm treated externally with ℞.—Sulphat. zinc., ʒj.; axung. porci., ʒvj. M. f. ungt.

162. James McC., æt. 10 years. *Cerumen Induratum.* Patient complains of hard hearing and a strange noise in his right ear. Indurated wax is found to fill up a portion of the external ear. Injections of water.

163. Daniel P., æt. 1 year and 9 months. *Pneumonia Chronica. Catarrhus Intestinalis.* The history of the case is very inaccurate. Patient, of healthy parents, is reported to have always been well with the exception of the last five months, during the larger part of which he has been suffering from mucous, or serous, light-colored or greenish diarrhœa, and from coughing. Of a feverish disease nothing is known. The physical symptoms, as far as the lungs are concerned, (heart being normal,) are the following: Mucous and sibilant râles to some extent over the whole chest; respiratory murmur diminished nowhere; over the left upper lobe sometimes very much like the bronchial. No prolongation of expiration. Dull sound on percussion over the upper lobe of the left lung, both anteriorly and posteriorly. Treatment: ℞.—Sulphat. quin., acid. tannic, ää., ℈j.; pulv. opii, gr. j.; and M. f. pulv. Div. in p. æq. No. xxiv. D. S.: Four powders daily. Diet generous.

164. Ann W., æt. 1 year and 7 months. *Pneumonia*, left upper

lobe. *Bronchitis.* Measles a month previously. Sulph. quin., gr. ijss., twice a day. Pulv. Doveri, gr. j., every night.

165. Edward D., æt. 4 years. *Bronchitis.* Oxysulphuret. antim., gr. j., every 3 hours.

166. Mary T., æt. 2 years. *Pneumonia Bilateralis.* Little coughing; very high fever; slight convulsions last night. Vomiting has occurred several times. Pain in left side of thorax; subcrepitant râles over left lung. No dull percussion sound; constipation. Tinct. digitalis, gtt. xij., every two hours. After three days the fever disappeared; no vomiting; not much coughing. Bronchial respiration nowhere, but dull percussion sound over left lung, upper lobe, anteriorly, and right lung, middle lobe, both anteriorly and posteriorly. ℞.—Sulphat. quin., gr. viij.; oxysulphuret. antimon., gr. xvj.; sacch. alb., ʒss. M. f. pulv. Div. in p. æq. No. xvj. D. S: a powder every three hours.

167. Richard C., æt. 4 years. *Hyperæmia Spinalis.* Patient is reported to have always been well until a short time ago. Six weeks ago he complained of a severe pain in his back, corresponding with the upper lumbar and lower dorsal vertebræ, which could not be traced to any external injury. At the same time the powers of his lower extremities grew less, his knees would relax. and his feet would be thrown outward. The pain increased for a week, until the lower extremities were perfectly paralyzed. The sphincter muscles of both urinary bladder and rectum were not affected. The pain gradually decreased, but not so the paralysis, which remained stationary until a few days ago, after the application of a vesicatory to the affected part. The motory power, however, is still very little, no voluntary motions to any considerable extent being possible. Apparently the sensory nerves have, although affected, never been suffering in the same degree as the motory ones. Treatment according to the principles laid down previously, (Case 122.) ℞.—Extr. secal. cornut. fluid., Squibb, ℥ss. D. S.: Ten drops three times a day.

168. Mary M., æt. 5 months. *Marasmus.* Patient was a healthy infant when born, since which time, however, she gradually lost flesh and strength. She has been fed on goat's milk, arrow-root, and farina, the mother having suffered from severe mastitis after confinement. Patient has a senile appearance; is very thin and emaciated; eyes, cheeks, and fontanels sunk; forehead covered with horizontal wrinkles; intercostal spaces and trigonum colli sunk; abdomen large; extremities very thin. The weight of the child hardly more than at birth; mucous membrane of the mouth of normal color; respiration a little irregular: 35–40. Expiration not prolonged, but mucous râles all

over the chest, changing their place from time to time, according to the child's efforts in crying. Between the scapulæ, on either side of the vertebral column, the respiratory murmur more of a bronchial character, percussion exhibiting at the same time a somewhat dull sound. No cough, nor hoarseness, but voice feeble in accordance with the general weakness of the patient. She has from three to five passages a day, sometimes greenish, sometimes serous or mucous, generally not preceded nor followed by pain. The case is evidently one of atrophy produced by vicious food; neither the goat's milk, nor arrow-root, nor farina agreeing with the digestive organs of the infant. It would be well if there was only a deficiency in her food as to quantity, as in those cases of infants who are nursed by their mothers, but supplied with less than their proper amount of food. Such children will be thin, emaciate, and voracious, will cry after leaving the breast, will suck all night, never being satisfied, because always hungry; but no symptoms of pulmonary disease show any deeper lesion, nor is there any diarrhœa indicating trouble of the digestive organs. They are simply cases of healthy children starving for want of food. In the case before us, however, there are plenty of nutritious elements contained in the food, but not in such composition as to be digestible in tender age and by wholly unprepared organs. Moreover, there is in arrow-root and in farina more amylaceous matter than, even if digested, would prove beneficial to the infantile organism. The irritation produced by indigestible ingesta on the mucous membrane of the gastro-intestinal canal will result in diarrhœa, and the loss of albuminous matter will increase the emaciation brought on already by defective assimilation.

It is in this case of the utmost importance to decide whether the general marasmus depends on the insufficiency of food only, or whether the pulmonary symptoms enumerated point to a severe general affection. Mucous râles with a normal percussion sound are found in a simple bronchial catarrh, as well as in tubercular infiltration; the absence of cough being in no manner a proof of the absence of tubercles. For tubercular deposits will sometimes be found exclusively, without coughing having given rise to any suspicion in this direction. Nor is the harsher respiratory murmur between the scapulæ a symptom of tubercular infiltration. Its occurrence on both sides appears in itself to indicate its occasional presence under normal circumstances. The respiratory murmur in early age is, indeed, a good deal harsher (puerile) in early age, and there is, for this reason, nothing surprising in the quality of the respiratory murmur. Even bronchophony may be observed sometimes, in such cases, where the general emaciation and the little distance between the larynx of the patient and the ear of the examining physician change the usefulness and signification of the general symptoms. We furthermore know, that although the tubercular dyscrasia is not unfrequently found in early age, it is not so very frequent in the first year of life, when the majority of cases of atrophy resulting from insufficient and improper food occur. Of thirty one tubercular children in the Paris Foundling Hospital, Hervieux noticed but ten who were less than a year old. Nor are there other symptoms or indications arousing the suspicion that the intestinal catarrh in our case could be of a tubercular character, or the general emaciation and exhaustion depending on the same diathesis. There are nowhere swellings of glands over the surface of the body, which will always be found in individuals with scrofulous or tubercular predisposition. And finally, there is no case of tubercular phthisis known to have occurred in the same family. An older sister of our patient's, who had been so fortunate as to be nursed by the mother, is perfectly healthy and well-developed.

The treatment in cases like this is as clearly indicated as it is generally unsuccessful, because of its being neglected. Whenever it is possible to allow such children to return to the breast, they will generally recover very soon. Where this is impossible, the food must be as similar to the natural one as possible. Beef-tea, boiled milk diluted with water and mixed with a little salt and sugar, decoction of barley mixed with milk where there is tendency to diarrhœa, or of oatmeal gruel where there is a tendency to constipation, will generally prove better in those early months of life than any amount or number of medicinal agents.

(To be continued.)

A Case of Fibro-Cystic Encephaloid Degeneration of an Undescended Testicle and Bladder. Operation by Prof. D. S. CONANT. Reported by WM. H. MARTIN, M.D.

On February 21st, 1861, Prof. D. S. Conant exhibited to the class of the Maine Medical School the patient, Andrew C. Smith, aged 17 years and 10 months, who presented a large tumor occupying the whole of the left iliac region. It was of ovoid form, its larger end superior, its long axis nearly parallel to Poupart's ligament. It was covered with normal skin, through which appeared numerous large veins. It measured in its longest diameter *seven inches;* in its transverse diameter *five inches*, and projected from the abdominal surface about *four inches.* Palpation discovered both fluctuation and solidity. At the upper rounded extremity, anteriorly and posteriorly, fluid was unmistakably present; the base and body had a firm, resisting, obscurely lobulated, and evidently solid feel, while at the lower smaller extremity the fingers, passed deeply behind the tumor, distinguished the superior margin of the external abdominal ring, and appreciated the sensation still deeper of a sort of neck. The scrotum was occupied by only one testicle.

The history of the case, as ascertained at the first examination and elicited by subsequent inquiry, is as follows: The boy has always enjoyed robust health. His parents and all his family have been altogether free from any scrofulous or cancerous taint. The patient says that as long as he can remember, he has had but one testicle visible; but his father is very confident that when his son was seven years old his scrotum contained two testicles. In the early spring of 1858, (just three years ago,) having then no lump or swelling in the inguinal region or elsewhere, he received what he calls a kick from a playmate, who took him by the shoulders and dashed his knee forcibly into Smith's groin. The blow caused intense pain, of that sickening character that follows compression of the healthy testis. Smith became faint, reeled, and had to sit down. The pain continued severe for that and the following day, then gradually ceased. But with its diminution there commenced a swelling in the place of injury, which continued—how long exactly, he does not remember—but until a tumor had formed as large as a hen's egg. This remained stationary in size for two years, its other symptoms being entirely negative. In March, 1860, he took a very long walk, and soon after was attacked with violent pain in the tumor, followed by an immediate increase of size. He remained in his room one day, applied some domestic stimulant locally, and the next day the pain and stiffness subsiding, went to work in the factory as usual. But the tumor continued to increase, its growth being gradual and painless. The patient did nothing for it, and his parents were ignorant of its existence. In September, 1860, he mentioned its presence to a physician at W., who, without examining it, told him he was "*busted*," and ordered a snake truss, which was actually worn for some weeks. In November, the father became aware of the existence of the tumor, and consulted Dr. Ellis and Drs. Lincoln, father and son, neither of whom advised any treatment. In the same month, Dr. McKean, of Topsham, applied three blisters, with the effect of a rapid increase in size, and the development, apparently, of a solid growth in the midst of what had previously been a uniformly fluctuating tumor. During all this time, the patient's health had not suffered, and he had been capable of active and continued exercise; even on the day that Dr. Conant saw him, he had been skating for several hours.

Prof. C., after making some remarks to the class, excluding from the diagnosis enterocele, abscess, and "hydrocele of an undescended testis," (which latter it had been pronounced to be,) contracted his diagnosis to one of two possible things: degeneration of the contents of an omentocele, or fibro-cystic degeneration of a retained testis—most probably the latter. He then introduced an exploring trocar into the superior fluctuating part, and drew off nearly a pint of yellowish serum. This changed the form, but did not materially diminish the size of the mass. The rounded end collapsed, and the solid portion was thus brought into strong relief, its upper edge projecting sharply under the skin. Dr. C. announced that the only treatment worth attempting was removal, and appointed the following Saturday for the operation.

Operation.—After the boy had been with great difficulty brought under anæsthetic influence, Dr. C. made an elliptical incision, nearly nine inches in extent, in the direction of the long axis of the tumor. Dissecting off the flaps on either side, he laid bare the body of the tumor, and enucleated it as completely as possible. After gaining more room for manipulation, by opening one large and several smaller cysts, he found the neck to consist of a diverticulum or prolongation from the bladder, which either projected up through the external abdominal ring in the healthy condition of the parts, or was drawn up into this situation by the enlargement of the testicle during the progress of the disease. This complication had been mentioned to the class as of possible existence, but had not been certainly expected; and although it rendered the prognosis much more grave, did not, in Dr. C's opinion, modify the steps of the operation. Accordingly, after ligating the neck of the tumor, he applied the ecraseur, and with great readiness removed the whole mass of disease. There was no hæmorrhage after the separation, but a gush of urine followed pressure on the hypogastrium. The superficial epigastric and the spermatic artery required ligature; other vessels bleeding were controlled by torsion. The opening into the bladder was united by continuous suture, and the integumental wound was closed by seven or eight points of interrupted suture. A flexible catheter was introduced into the bladder, and the boy was put to bed. The operation, from the first incision to the introduction of the last suture, occupied about twenty-five minutes.

Progress of the Case.—Saturday, four hours after operation. The patient recovered well from the effects of the ether, rallied completely from the shock of the operation, and felt no pain. Pulse 96.

Saturday, 10 P. M.—Condition the same; the urine that has been drawn off presents hardly a tinge of blood.

Sunday, A. M.—Pulse 100; condition otherwise unchanged.

Sunday, P. M.—Pulse 102; a slight tenderness and puffiness about the wound.

Monday, P. M.—Pulse 128, but not sharp or hard. A slight diarrhœa, which had existed up to the period of the operation, has given place to constipation, which Dr. C. considered might be the cause of the excitement of pulse, and now used some gentle means to relieve. No signs of urinous infiltration.

Tuesday, P. M.—Pulse 138, and yet no symptoms of peritonitis. A bloody or sanious discharge, which had heretofore been slight, now increased to profuseness. Still, no indication of infiltration of urine. Bowels not moved.

Wednesday, A. M.—Pulse fallen to 128; large doses of castor oil had been effective in producing evacuations during the night.

Wednesday, P. M.—Pulse 120; the urine looked well, though there appeared little probability of obtaining union by first intention. He was now able to pass his urine without a catheter, and as he suffered very much from the presence of the instrument, and especially from its introduction, he was permitted to go without it. From this time he continued to improve, his pulse falling to 90, and remaining regular; his general health good; the wound healing very kindly, and the ligatures all coming away before the eighth day. He was soon able to sit up, then to move about on crutches, and finally, to appear again before the class on Monday, April 1st, thirty-six days after the operation. The wound was nearly closed, his health was good, and he looked better than he did before the operation; the whole progress of the case having been in every respect satisfactory.

Appearance of the Tumor after Removal.—When all the cysts, to the number of seven or eight, had been opened and their contents discharged, the mass still preserved its ovoid form, and weighed about three pounds. On being laid open longitudinally, the appearance was that of two kinds of tissue; one cortical, and the other central or medullary. The cortical was about half an inch thick, and invested the whole tumor. It seemed to be of fibrous structure, and on being examined under the microscope, presented an aggregation of rather large fibres, interspersed with small, round, non-nucleated cells and granular matter. The central or medullary portion was soft, almost pullaceous in some places, and of a yellowish-red color, very much diversified by darker irregular streaks. At the smallest end, corresponding to the supposed position of the testicle, there was a distinct oval demarkation, measuring about two inches in its longest diameter, of a lighter color and softer consistence than the rest of the central portion. The microscope proved the softest portion of this oval to consist of nucleated cells, some caudate, others round, and of every irregularity of shape, mingled with fine granular matter and pigment-cells; the whole evidencing plainly enough the malignant nature of the disease.

Case of a Foreign Body remaining in the Trachea of a Child Twenty-three Months. By N. W. Bates, M.D , Central Square, Oswego Co., N. Y.

On the 17th July, 1858, was called to a male child, seven months, of Mr. B. Ingerson, of an adjoining town, who had been taken suddenly about three days before with violent spasmodic coughing and dyspnœa. The mother first observed it retching and strangling as though choked, and on running her finger down its throat, imagined she felt some foreign substance, which she pushed downward. The older children having had heads of timothy grass to play with, she supposed it to be one or a part of one, and that it had passed into the stomach. But the spasmodic cough and wheezing respiration continuing at intervals, I was sent for, when I found the child exhibiting many signs of a foreign body in the air-passages.

In addition to the symptoms already mentioned, there was considerable febrile action present, with great general nervous irritability. These symptoms, however, yielded, after a few days, to mild antiphlogistic and sedative treatment; and as the other symptoms gradually improved both as to the frequency and severity of the paroxysms, I resolved not to further interfere, hoping the body, whatever it was, would be disintegrated by the mucus of the parts or in some other manner, and finally be dislodged. Thus the case continued, the child meanwhile growing, and enjoying passable health, until June 20th, 1860—almost two years—when, during a fit of coughing, brought on by crying, after a slight punishment by the father, during which it strangled, and appeared to exert itself with every muscle of the body, there was a sudden discharge of a quantity of frothy mucus from the mouth, which the mother caught in her hand; and, on examination, there was found a head of timothy grass measuring one and three-eighths inches in length and one-eighth inch in diameter, entirely covered, except the tip of one end, by a viscid, ropy, dark-colored mucus, from which emanated a very putrid scent.

I forgot to mention, that soon after the accident the child's breath became very putrid and offensive, and so continued until the discharge of the grass-head, when it immediately and entirely disappeared. All the other symptoms now disappeared, and the boy has ever since been perfectly healthy.

MONTHLY SUMMARY OF FOREIGN MEDICAL LITERATURE.

By Dr. L. Elsberg.

69. *On Non-Polarizable Electrodes.* By E. Du Bois Reymond. (Moleschott's Untersuchungen, VII., p. 119–164.)
70. *The Relation of the Color of Hair to its Mineral Ingredients.* By E. Baudrimont. (Bulletin de l'Académie Imp. de Méd., XXIII., p. 986.)
71. *On the Sensibility to Pressure of the Skin.* By Dr. R. Dohrn. (Henle und Pfeuffer's Zeitschrift, Third Series, X., p. 339.)
72. *On the Influence of Change of Atmospheric Pressure on the Human Organism.* By R. Von Vivenot, Jun. (Virchow's Archiv für Pathologische Anatomie und Physiologie und für Klinische Med., Vol. XIV., p. 492.)
73. *The Effects of Great Cold on the Animal Economy.* By Dr. Felix Krajewski. (Schmidt's Jahrbücher, No. 6, 1861, p. 330.)
74. *On the Effects of Lightning upon the Human Body.* By Dr. W. Stricker. (Virchow's Archiv, Vol. XX., p. 45.)
75. *Action of Aniline on the Animal Body.* By Dr. B. Schuchardt. (Ibid., p. 446.)
76. *Pathology of Asthma.* By G. H. Kidd, M.D. (Dublin Quarterly Journal of Medical Science, May, 1861, p. 292.)
77. *On the Employment of Sulphate of Alumina and the Sulphate of Alumina and Zinc.* By Dr. Homolle. (Bulletin Général de Thérapeutique, March 30, 1861; L'Union Médicale, etc.)
78. *On the Use of Arsenite of Strychnia in Scrofulous Diseases.* By Prof. Grimelli. (Gazz. Sarda, 51, 1860.)
79. *Digitalis and its Preparations in Cases of Organic Diseases of the Heart.* By Dr. E. Richard Pfaff. (Bulletin Gén. de Thér., Feb. 18, 1861.)
80. *Dover's Powder in Cases of Phthisical Sweats.* (Gazette Méd. de Lyon; London Med.-Chir. Review, July, 1861, p. 176.)
81. *Two Cases of Poisoning by Agaricus Muscarius.* By Dr. Mautner. (Allgemeine Wiener Med. Zeitung, 8, 1861.)
82. *On the Cure of Scabies.* By Dr. Metzl. (Ibid.)

83. *On the Position of the Parturient.* By Dr. Ed. Hohl. (Deutsche Klinik, I., p. 13.)
84. *The Treatment of Orchitis Blennorrhagia.* By Drs. Timermans, L. Berruti, etc. (Gazetta Sarda; Gaz. d'Orient, IV., 8, 1861.)
85. *Oleum Rorismarini and Tinctura Aconiti as Collyria.* By Prof. Hoppe. (Preussische Vereins Zeitung, N. F., III., 11, 1861.)

69. So-called polarization of the electrodes, *i. e.*, the electro-motory action established at the boundaries of the conducting liquid and the ends of the metallic multiplicators, has always been a source of difficulties in electro-physiological and electro-therapeutical experiments. In 1854, Jules Regnault, and in 1856, Matteucci recommended various combinations as being unpolarizable, but neither of these distinguished physicists had sufficiently proved their non-polarizability, and practically none was known until Bois-Reymond has now incontestably shown, that no polarization whatever at the electrodes takes place in a combination of amalgamated zinc with saturated solution of sulphate of zinc. That this combination is easily and cheaply attainable is a great advantage, as its general employment is of incalculable practical importance for the progress of "animal-electrical" and medico-electrical science.

70. Baudrimont has attempted to solve the question as to the cause of the various coloration of hair by analyzing the ashes of different specimens. From flaxen-colored hair he obtained 0.474 per cent. ashes; from red hair, 0.421; from black hair, 0.390; from chestnut-brown hair, 0.285; from white hair, 0.266 per cent.; 100 parts of the ashes consisted of:

	White Hair.	Flaxen Colored.	Red.	Brown.	Black.
Sulphate of Soda	22.082	33.177	18.425	42.936	59.506
" Potassa	1.417	8.440	7.542		
" Lime	13.576	......	......	....	......
Carbonate of Soda	......	......	......	10.080	......
Chloride of Sodium	traces.	traces.	9.945	2.453	3.306
Carbonate of Lime	16.181	9.965	4.033	5.600	4.628
" Magnesia	5.011	3.868	6.197	4.266	2.809
Phosphate of Lime	20.532	9.613	10.296	10.133	15.041
Oxide of Iron	8.388	4.220	9.663	13.866	8.099
Silicic Acid	12.803	30.717	42.879	10.666	6.611

The amount of oxide of iron contained in 100 parts of ashes from gray hair was 4.155; light-flaxen, 2.403; fair, 4.981; diverse, 5.402; chestnut brown, 5.830; brown, 6.397; dark-brown, 3.413; and the author inclines to the opinion that the color of hair depends mainly upon iron salts, (iron coloring matter,) which seems to be the more probable, as Lecanu asserted to have observed a certain relation between the color of the hair and the quantity of red corpuscles in the blood.

71. The experiments of Dohrn to obtain new data on the subject of sensibility to pressure of the skin were made with a delicate balance on the under surface of one of the scales, of which there was a small smooth metallic projection. Accurate weights were put on the scales, and so adjusted that this projection pressed on any part with, f. i., exactly the weight of one gramme. The pressure was then changed by very small fractional variations, (in one series increasing, in the other decreasing,) until a difference of pressure was distinctly appreciated. Experiments, among others, on a boy eleven years old did not confirm the presumption of the greater sensibility of the skin in children, though the author does not fail to remind us of the sources of error from want of attention of the child, etc. Most of his experiments refer to the upper extremity, and we extract the following conclusions, as drawn from the resulting tables:

(1.) Sensibility to variations of pressure steadily diminishes from the point of the fingers upward to the elbow. Thus, for instance, while an adult distinctly felt the diminution of 0.03 gramme from the gramme pressure at the first joint of the index finger on both the palmar and dorsal side, the pressure had to be diminished 0.99 gramme before any diminution could be appreciated an inch below the elbow-joint.

(2.) The palmar surface, in general, has greater sensibility than the dorsal.

(3.) Of the fingers, the second and fourth seem to be most sensible to pressure; the third and fifth least, and the thumb to be in the mean between these.

(4.) The radial side has a slightly greater sensibility than the ulnar.

72. Vivenot has examined the phenomena observable in man when exposed to sudden alterations of atmospheric pressure. Rapid and considerable *diminution* of pressure—as experienced by the ascent in the air balloon to the height of about 18,000 feet above the sea, or by the climbing of mountains of a similar elevation, connected with a reduction of pressure to one-half of what we are generally exposed to—is found to cause: 1. Increased evaporation from the lungs and surface of the body; 2. Increased oxydation, in consequence of the loss of warmth occasioned by the augmented evaporation; 3. Increased frequency of respiration and pulsation, the former being induced as well by the smaller amount of oxygen contained in a certain volume of air,

as also by the greater amount required in the formation of heat; 4. Congestion of blood towards the peripheric parts, and in consequence dilatation and even rupture of blood-vessels; 5. Diminished approximation of the corresponding portions of joints; 6. Diminished secretion of urine, as an effect of the increased evaporation. The observations on *increased* atmospheric pressure have been made in Tabarié's air-compressing apparatus, as it is used for therapeutic purposes at Nice, Montpellier, and other places, under the name "*bain d'air comprimé.*" The author's inferences are based on researches made at Nice, on himself and four other male individuals. For the description of the apparatus, we refer to the essay itself. The experiments were made on eight successive days, between the hours of 12, at noon, and 2 P. M., before the principal meal, the mean temperature being 11° Cent., (51.8° Fah.,) the atmospheric pressure in the apparatus amounting to 1⅕ atmospheres, (925.04 millimetres* mercury.) The effects of the compressed air were: (1.) A decided decrease in the frequency of pulsation; the greatest decrease being 18 beats per minute, the average 10 beats. (2.) Diminution of the number of respiratory movements, amounting in the mean to 1.1 per minute. The influence, as well on the pulse, as also on the respiration, lasted beyond the time of the experiment; it seemed to be greater where the frequency of pulse and respiratory movements were morbidly increased. (3.) Diminished evaporation from the surface of the skin and lungs. (4.) Increased secretion of urine. (5.) Repulsion of the blood from the periphery, especially checking of congestive conditions in the periphery. The author further expresses the opinion, that the slight variations of atmospheric pressure occurring under usual circumstances, with change of weather, are of little influence on our feeling of health and strength, and that the phenomena frequently ascribed to these slight changes are due to other influences, as temperature, moisture, and winds.

73. Krajewski has written a very elaborate paper, which has received the prize of the Society of Polish Physicians at Paris.

By immersion of rabbits in liquids, cooled down to as low as —2° to —12° R., [27½° to 5° F.,] he arrived at the following conclusions: (1.) Every considerable lowering of temperature under 32° F. leads to the inevitable death of the animal. (2.) The rapidity of death is in general proportionate to the degree of lowering of temperature. (3.) Individuality exerts an important influence, for all rabbits do not lose the same amount of heat with the same temperature at the same time.

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* A millimetre = 0·03937 inch, or 0·47 line.

But after fifteen to twenty minutes, general debility, with weakness of the extremities, especially the posterior, ensues in all, and respiration becomes more and more difficult. Some rabbits at first cry out piercingly, but soon sink with debility. The pulse becomes uniformly weaker, as also the heart's impulse. In only one of the animals convulsive movements were seen, and here dissection revealed in the left hemisphere of the brain a slight effusion of blood, (of the size of a pea.) In the others, the brain was only congested, and membranes strongly injected. The posterior parts of the lungs were equably congested, the arteries empty, and the right heart filled with dark coagula.

In relation to the influence of great cold on the peripheric parts of the body, the author has made the observation that freezing of parts which occurs so frequently in the human subject is a very rare exception in animals. He never found a frozen part except the ears of rabbits and the crests of cocks. These organs became rigid and very brittle. In consequence of reaction, frozen parts inflamed; but this inflammation never proceeded to mortification. Only once did the author see slight ulceration on a frozen cock's-comb. After immersion of the paw of a dog in a freezing mixture for three hours, there was found only a lowering of temperature in the part and a slight difficulty in running, all of which, after a few hours, passed off.

Animals running about freely can stand great cold without dying, and without getting frozen extremities. The author relates instances of horses and cows losing their way in woods, and running about for months in a temperature on an average from —8 to 26° F., without other food than what they found under the snow. These animals, when found, had become very much emaciated, and had lost nearly all hair, but no part of the body was frozen.

According to the author, 694 persons die on an average from the effects of cold annually in the Russian Empire. In other European countries deaths from cold are rare.

All individuals do not equally withstand cold. The constitution, the manner of dress, the dryness or moisture of the air, and other circumstances, exert a great influence. All causes predisposing already to congestions of the brain, as abuse of alcoholic liquors, and also long fasting, sleepiness, debility from previous disease, &c., generally hasten the fatal issue. The observation of *Brambilla* that, under ordinary circumstances, one hour's exposure to great cold was frequently sufficient to cause death, is confirmed by the author's observations, made in Siberia. In Siberia it is generally taken for granted that persons comparatively lightly clad, undertaking to march with the thermometer at from —30° to —35° F., can do so with impunity only for the first four [of their] miles, (lieues;) and when it happens that inhabitants in that country do not return from their excursions, their friends usually look for them in the snow, commencing at the fifth lieu from their starting-point. There have been persons, however, who have staid with impunity in snow and ice for two, three, or even five or six whole days; but such cases are always distinguished by special circumstances, and seem rather to strengthen than to invalidate the general rule. We must transcribe the main points of the following extraordinary case, related by the author, which, he says, is the more entitled to credence, as it was subjected to judicial investigation.

A Russian peasant, from the Province of Kursk, was caught by a heavy snow-storm, and buried with horse and sleigh. He was found living, after twelve days. First was found the corpse of the horse, over which the snow had formed so hard a cover of ice that it could scarce be broken with iron shovels and axes. From an opening a warm vapor was emitted, and on the ground the unfortunate man was lying asleep. On his name being called, he easily awoke. He had eaten nothing throughout the time named, only quenched his thirst from time to time with snow. He could give no account of the time he had been buried under the snow. Two toes of one and three of the other foot were frozen. The fingers of one hand, with which he had at various times attempted to work through the snow, were denuded of epidermis, but without any trace of frost. Not until after two months did this extremely debilitated man recover, apparently, at least, his ordinary health; but a few months later he entirely lost his eyesight.

The anatomical appearances in individuals dying from the effects of cold the author describes as follows:

(1.) Rigor mortis is generally more marked than after any other manner of death. The extremities and the protruding parts, as ears, nose, and toes, are very brittle, and break especially easy on transportation.

(2.) The brain and its membranes are strongly congested, the sinus filled with blood. Actual extravasation of blood is found rarely; serous effusions in the ventricles are met more frequently.

(3.) The posterior part of the lungs is usually greatly hyperæmic, and sometimes foamy fluid is found in the bronchii.

(4.) The heart contains coagula, especially the right side.

(5.) Bits of ice can often be felt in the subcutaneous vessels, and are sometimes found also in the cavities of the heart around the coagula, in the ventricles of the brain, and in the urinary bladder.

(6.) The general appearance of the cadaver is pale. The body having been brought into a warmer medium, and thawing having begun, the liquefied blood passes by exosmose through the walls of the vessels, and causes reddish stripes to be seen along the track of the vessels in the connective tissue. This appearance has been regarded by many, and especially Polish physicians, as a pathognomonic sign of death from freezing; but the author insists on the possibility of its occurrence after death from other causes. But as a certain sign, the author regards *the separation of the coronary and sagittal sutures.* Its presence can easily be made out by grasping the skull with both hands, and effecting an approximation and separation of the cranial bones. In five post-mortems after freezing, this was constantly met with; after death from other causes, never. This phenomenon he regards caused after death, and explains it as analogous to the bursting of bottles filled with water exposed to great cold. In doubtful cases of death from cold, he regards this as an excellent auxiliary for diagnostic purposes.

74. Stricker, after certain introductory matter regarding the nature of lightning, its conduction, general effects, &c., in which the views of several physicists are considered, passes on to the detailed relation of a great number of cases culled from the medical literature of various countries. From the particulars of these cases he forms a connected description of the usual effects produced on the human body, which is as follows. He supposed the person injured to have been either sheltering under a tree or to have been exposed openly. In the first case, the lightning in passing from the tree strikes the body on the neck or shoulder, causing a burn and much pain, with extravasation and congestion of the vessels over a broad part of the surface. From this a smaller stripe passes, running down to the nates, gradually getting less, and more superficial; but at the buttocks, where in the man the clothes fit tighter, the conduction is more intense. The lightning (1) either is conducted by the skin, thence towards the trochanter on one or both sides, the marks becoming weaker, and so on to the knee, where, owing to the tightness of the dress, it causes a deeper burning, runs along the calf, and then, if boots are worn, passes over and destroys them, or passes along the skin to the heel, and wounds it, and after piercing the shoe, makes a hole in the earth; often the lightning passes along the ankle. Or (2) the lightning may be con-

ducted along the trowsers, which it destroys, or pierces with only a round hole.

" When the lightning strikes a person freely exposed on the ground, then the head-covering is destroyed and the vertex smitten. From thence the conduction may be twofold—either (1) from the cranial bones to the brain, producing death by the simple or combined influence of the injury to the brain-mass, or by rupture of blood-vessels; or (2) along the skin. In the latter case the skin of the face and neck is almost always completely spared, and the lightning effects a considerable burn over the sternum; in some cases it enters the mouth, affects the teeth and tongue, causes bronchitis, loss of voice, &c. Proceeding downward, the track passes towards the inguinal region, only the shirt being sometimes torn, and then an interruption of conduction often occurs, occasioning deep burning of the groins, genitals, &c.; and occasionally we have mortal laceration of the intestines, or in milder cases, injection of the liver, spleen, stomach, &c. The conduction then is through the skin or clothing, or both, to the back of the foot, where a wound is produced. The burning of the hair is very remarkable, and this may happen without any injury to the skin.

The burning produced by the lightning varies from that of the cautery to a mere drying of the tegumental surface.

The general results of injury by lightning are—

(I.) In those killed, the rapid supervention of putrefaction and the dilatation of the pupils. The hæmorrhage from the nose and mouth is not sufficiently understood.

(II.) In those only outwardly injured (partly, perhaps, from fright.)

(1.) Excessive stupefaction.

(2.) Great alternate depression and exaltation, long-drawn inspirations, small, slow pulse, cooling of the skin, muscular debility.

(3.) Suppression of urine and constipation; "vomiting, loss of appetite, sometimes purging."

(4.) Great painfulness of the part affected, which increases for two days, and then declines.

(5.) On the uterus of pregnant women, no peculiar effect is produced; like any other fright, it tends to arrest existing menstruation.

(6.) Cataract and nyctalopia may possibly be a result.

75. Dr. Schuchardt made a series of experiments to prove the effects of aniline upon animals. Aniline is an oily liquid, of powerfully basic properties, obtained by the distillation of indigo, and the name aniline is derived from the specific name of the indigo-plant, *(Indigofera anil.)* The physiological properties of aniline are but little known,

but the researches of Dr. Schuchardt prove that it is a poisonous substance. The results at which he arrived are the following: Aniline may act injuriously on the animal organism, and in large doses may even cause death. Frogs introduced into a weak solution containing aniline, died in periods varying from a quarter of an hour to two hours and a half; and death was also caused by the introduction of aniline into the mouth, or into a wound in the back. Rabbits were also poisoned by this substance; a small animal being killed by fifty drops in six hours and a quarter, and a larger one by one hundred drops in four hours. In all the animals experimented upon, violent clonic and tonic spasms ensued after the application of the aniline, and continued almost uninterruptedly until death. There was also loss of sensibility, commencing at the lower extremities and extending to the upper, and the temperature of the body was also reduced. Wherever the aniline was applied locally, as in a wound of the back, on the stomach, on the posterior part of the tongue, or on the conjunctiva, appearances of irritation were observed, which are probably connected with the power possessed by aniline of coagulating albumen. The aniline was never detected in the urine, and it is probable that this substance is eliminated from the body, rather by the organs of respiration, than by the kidneys.

76. Dr. Kidd enters into the consideration of the physiology of the action of the bronchial muscles, and comes to the following conclusions:

(1.) That during the paroxysm of asthma, the chest is distended to the greatest possible extent.

(2.) That all the muscles of inspiration are in spasmodic action, (tonic spasms.)

(3.) That the bronchial muscles are muscles of inspiration, and associated in the spasmodic action with the other muscles of inspiration.

(4.) That breathing is carried on by the voluntary effort to aid the muscles of expiration, and that as soon as this is relaxed, the muscles of inspiration, like so many stretched bands of india-rubber, distend the chest again.

That the spasm of the bronchial muscles in asthma arises from some morbid action in the medulla oblongata, is to be inferred from the following facts:

(1.) The fact that the spasm affects an entire group of muscles. Now, Schroeder Van der Kolk has shown that muscles associated in action are supplied by nerves arising from special groups of mutually associated and connected ganglion corpuscles. Disorder of this group would then manifest itself in the entire class of muscles.

(2.) Van der Kolk has also shown that the skin covering parts moved by muscles is supplied with sensitive nerves arising from the same segments of the spinal centre as the motor nerves of those muscles arise from. Dr. Salter has remarked, as an almost universal premonitory symptom of asthma, that there is itching of the skin under the chin, over the sternum, and between the scapulæ. This, it is evident, is a subjective sensation, and indicates an irritation existing at the roots of the nerves.

(3.) Paroxysms of asthma are observed to occur in cases of acute hydrocephalus, as in a case mentioned by Dr. Salter, and in one mentioned by Dr. Graves, where there were also general convulsions. In persons liable to epilepsy recurring at regular intervals, fits of asthma occasionally take the place of, or serve as substitutes for, the epileptic fit.

(4.) The state of the patient preluding the fit of asthma indicates an affection of the nervous centres. In one, there is mental exhilaration; in another, mental depression. A patient of Sir J Forbes is awakened by convulsions in one foot and leg, and as soon as the asthmatic fit is developed, the convulsions of the extremity cease.

(5.) The exciting cause indicates the same. In one, cold water applied to the instep will cause an attack; in another, going to bed with a loaded rectum; sudden emotion, &c., &c. The latter will also check the paroxysm when fully developed. Hence it may be inferred that asthma depends on a morbid state of the medulla oblongata and spinal centres, which manifests itself by throwing the entire group of inspiratory muscles into spasmodic action.

77. The sulphate of alumina (which is not to be confounded with the common alum, a double sulphate of alumina and potash,) was introduced into medical practice by Dr. Homolle. It contains an excess of acid, a small portion of iron, and a little of the double sulphate; and in order to neutralize the free acid, which may burn the linen of the patients and injure the steel instruments of the surgeon, M. Homolle has proposed to add oxide of zinc, thus forming a double sulphate of alumina and zinc. This latter has a more energetic action on hetero-morphous tissues than the simple sulphate, and M. Homolle prefers it when it is desirable to apply it to a deep portion of altered mucous tissue, or to destroy an accidental growth. The affections in which it has been successfully employed are inflammations of the tonsils and pharynx, hypertrophy of the tonsils, polypus of the nasal fos-

sæ, ingrown finger-nail, scrofulous ulcers, nævi and vascular growths, inflammatory affections of the neck of the uterus, displacements of that organ, and lastly, cancerous ulcers. In many cases where the tonsils were so much hypertrophied as apparently to require excision, M. Homolle has observed the chronic enlargement to yield to the daily use of the saturated solution of the simple sulphate of alumina. Membranous diphtheritic sore throat, before the larynx was attacked, yielded to the same application, and in a case of polypus of the nasal fossæ, where the morbid growth had sprouted out several times after removal, the patient was finally cured by the same agent. Scrofulous ulcers, touched every day with the sulphate of alumina, began to assume a healthy appearance, their fungous growths being reduced and the cicatrization being promoted; and hypertrophic engorgement of the neck of the uterus, and erythematous, granular, or ulcerous inflammation of its lips, was rapidly improved or cured by the direct application of the double sulphate with the addition of injections of the same salt. In its direct action it favors the exfoliation of the morbid tissues in successive layers; it diminishes the ichorous discharge of the ulcerated surface, destroys the smell, and causes the secretion to resemble healthy pus, and diminishes or completely removes the lancinating pains which are peculiar to cancer. M. Homolle's conclusions, in reference to the use of the sulphate of alumina and the double sulphate of alumina and zinc, are the following:

1. These salts, used externally, may be ranked as modifying agents, occupying a place between catheretics and caustics. 2. They are particularly useful in inflammation of the tonsils and pharynx, and in the affections of the neck of the uterus; and 3. They possess, moreover, a special remedial power over cancerous ulcers, the progress of which they retard or modify, acting in this respect at once as caustics, disinfectants, and hæmostatics. They often succeed better than narcotics in relieving the pain peculiar to cancer, and they retard the development of the attendant cachexia.

78. Arsenious acid forms, with strychnia, neutral, acid, and basic salts. They are obtained by solving strychnia in water, saturated with the acid. On evaporation, prismatic crystals are formed. The basic salt has been with surprising beneficial results employed by Grimelli in one-thirtieth-grain doses, once to three times daily, in cases of scrofulous and strumous disease, cold abscesses, open cancer, spina ventosa, and caries of the joints. In open cancer, the remedy (mixed with flour) was strewed over the part in the same dose as when given internally.

79. Dr. Pfaff considers that digitalis certainly belongs to the class of narcotico-acrids, but as it contains two active principles—namely, *digitaline* and *skaptine*—it exercises two different kinds of action. Digitaline exercises its influence on the nervous system of the heart, the morbid activity of which it usually reduces. According to Dr. Pfaff, it acts by paralyzing the nerves of the circulatory apparatus; when, for instance, the pulse, after being morbidly excited, falls under the use of digitalis, from 100 in the minute to 30 or 40, it is because the abnormal activity of the heart and arteries has passed from one extreme to the other, and that a condition of morbid excitement has been succeeded by a kind of paralysis. It must be stated, however, that the depressing action of digitalis on the pulse is by no means constant, for certain delicate and sensitive constitutions exhibit a peculiar excitement of the circulation under the use of the drug. The action attributed to the *skaptine* is a stimulating one upon the venous and lymphatic absorbents, and upon the glandular system in general. It is thus that the diuretic action of the medicine may be explained; and although some authors have considered this effect to be peculiar to digitalis, it is only manifested in proportion as the absorbent function has been augmented by its administration.

With regard to the precise action of digitalis on the heart and arteries, M. Pfaff is convinced, after numerous experiments, that rather large doses of digitalis produce more or less increase in the activity of the heart, and that although, after the employment of small doses, the depressing action is manifested at the end of twenty-four or forty-eight hours, or after some days, yet that the phenomena of depression are not to be considered as primitive. As to the duration of this first period, or period of acceleration, it depends entirely upon the dose; large doses usually producing a more important acceleration, but one which does not last long, and is followed by a more prolonged diminution in the cardiac pulsations. In relation to the remarkable action of digitalis on the venous and lymphatic systems, M. Pfaff remarks that just as digitalis excites and then depresses the action of the heart and arteries, so does it exercise the most opposite influence upon the venous and lymphatic systems, depressing them first, and exciting them afterwards. In short, remarks M. Pfaff, digitalis acts, first, by accelerating, and secondly, by retarding the action of the heart; it acts in the same manner in relation to the stomach, but in a degree somewhat less marked than tartar-emetic; it diminishes diuresis, at first, and increases it afterwards; and lastly, it acts upon the sexual organs in the same manner as upon the urinary organs; at first depressing, and then exciting them.

In the inflammatory diseases of the heart, as pericarditis, myocarditis, and endocarditis, M. Pfaff does not much approve the use of digitalis According to his views, it should only be employed in cases where there is no congestion associated with the inflammation, or where the latter has been already reduced by suitable treatment, and then it should be given only in very small doses, as one-quarter to one-third of a grain of the powder, four times a day. In hypertrophy of the heart, M. Pfaff insists that the same prudence must be observed, because disturbance of the digestive function is easily induced in such cases. It is, therefore, in the organic affections of the heart, properly so called—namely, those of the valves and orifices of the heart—that M. Pfaff thinks digitalis peculiarly useful; in those cases the physician can scarcely hope for a cure of the morbid changes, and he is compelled to prescribe for symptoms only. But even in such cases, great precautions must be taken, for in insufficiency of the mitral valve, for example, there is often catarrh of the digestive canal or the genito-urinary mucous membrane; and if digitalis were employed in such a case, the cardiac symptoms might be relieved, while the secondary phenomena would be aggravated.

As to the preparations of digitalis, M. Pfaff considers that the *powder* is an excellent form for administration, but he prefers the *infusion*, prepared with from 1 to 4 grammes of the leaves, to 125 to 200 grammes of fluid, in the dose of four table-spoonfuls a day. The *decoction* often produces colic in a marked degree, but it possesses more diuretic properties than the other preparations. The *alcoholic tincture* has the same action as the infusion, but in a smaller dose it produces cerebral congestion and vertigo. The *ethereal tincture* has the same effect, but the symptoms disappear on the production of symptoms denoting activity of the heart and arteries. M. Pfaff also considers that digitalis may be employed externally, in cases where it cannot be administered internally. He recommends a mixture of equal parts of chloroform and tincture of digitalis to be applied externally, or the powder of digitalis to be applied night and morning, on a blistered surface.

The general conclusions at which M. Pfaff arrives are the following: 1. Digitalis ought not to be administered in an increasing dose, but in a diminishing one. 2. The dose of the medicine must be reduced as soon as the paralyzing action is perceived on the heart and arteries. 3. The sedative action of digitalis in morbid excitement of the heart is often prolonged for five or eight weeks. 4. Digitalis should never be continued in any form for more than six or eight days, and if, after a week's trial, the desired results have not ensued, squills or colchicum must be employed; these latter, as is well known, also act as sedatives to the heart. 5. In torpid subjects, it is convenient to commence the treatment by squills and colchicum, before administering digitalis. 6. In the greater number of cases it is advantageous, in order to avoid the inconvenient effects of digitalis on the digestive organs, to associate it with aromatics or tonics. 7 In aged persons, it is still better to associate it with cinchona. 8. In tuberculous subjects, digitalis should be associated with opium; in dropsical cases, with liquor potassæ and acetate of ammonia, polygala, squills, juniper, &c.; in plethoric persons, with cream of tartar, magnesia, sulphate of potash, and nitre; and in anæmic cases, with ferruginous preparations. 9. By following the employment of digitalis by the administration of arsenic, the cyanotic effects of cardiac diseases may often be considerably alleviated.

80. Dover's powder has been recommended in phthisical sweating by M. Descamps, who has found it uniformly successful. It might be doubted, on theoretical grounds, whether the Dover's powder, being itself a sudorific, would be likely to check undue perspiration; but according to M. Descamps, the effect has even surpassed expectation, the sweating being suppressed from the first, and the success of this mode of treatment is proved by the results of experience during a period of eighteen years. The mode of administration recommended by M. Descamps is the following: "We possess," says he, "several records of phthisical cases, in which the perspiration was arrested up to the period of death. The powder was generally given in the dose of fifty centigrammes (a centigramme is .1543 of a grain) in the evening at different hours, according to that which announced the commencement of the sweating; and not only was it always observed that it prevented this symptom, but it also diminished diarrhœa, allayed cough, and predisposed to sleep. It sometimes happened that the powder was vomited; in such cases the dose was divided into two parts, one of which was given in the evening, and the other during the night, when the patient was awoke."

81. A little girl, æt. 9 years, all at once commenced to behave like a drunken person: to run around the yard, quarreled with other children, and bit them. The mother found the child sitting in a chair as if in deep sleep; on being loudly called by name, she jumped up senselessly, and ran against her mother. Dr. Mautner found her half an hour afterwards in bed, unconscious, with closed eyes; nervous twitches

all over the body, especially hands. Opening the eyes, they were found rigid; pupils dilated, not reacting towards light; temperature of the skin somewhat increased; pulse full, and very frequent. As the diagnosis could not be made out at once, the author ordered cold applications to the head, sinapisms to the calves of the legs, and a purge of hydromel infantum.

About 11 o'clock at night the father of the child, æt. 62 years, also became maniacally excited, and could be restrained from acts of violence only by several strong men. In the case of the child, consciousness returned after five hours, after copious diaphoresis and two vomitings of the mushroom toad-stool, (*agaricus muscarius*, which the father had brought home, and which had been prepared as a dish;) in the father, perfect consciousness returned three hours after the fit of mania, and without vomiting. In the child, the symptoms of poisoning had manifested themselves after two hours; in the father after five hours. In the child there had been present dreadful delirium, with fear; in the father, religious delirium; and in both temporary blindness.

The main phenomena may be stated as—giddiness and reeling, of short duration, as in drunkenness, but visions and hallucinations differing according to individuality; loss of consciousness; mania, with greatly increased muscular power; finally, sopor, with slight nervous twitchings.

82. In a bottle of any size two-thirds full of olive or linseed oil, a piece of phosphorus is added, (about ʒij. to the ℔.) Over the mouth of the bottle a piece of bladder is tied, no cork; the oil is brought to the boiling-point in a water-bath, and the bottle, after all the phosphorus has been resolved into vapor, is well corked. On cooling, phosphorus falls to the bottom, and the oil is used by well rubbing it once daily into all the places affected. It is necessary that the patient should lie in bed entirely naked.

Of 80 patients, 35 were rubbed three times, 27 four times, 10 five times, 4 six times, and 4 twice. Thereafter, the skin regained its smoothness, and the eczema that had sometimes existed was soon healed.

83. In an able article on the Position of Women during Parturition, Dr. Hohl, after some preliminary matters, addresses himself to the following questions:

(1.) Is a particular position of any importance during pregnancy? Already this question is answered: Generally position is of no importance during pregnancy; but there are two exceptions. If (*a*) the fundus uteri is greatly inclined to one side, while no part of the child can be felt on vaginal examination—and especially if the patient has previously already had to be delivered by version or other artificial means, on account of malposition of the child—it is advisable for her to lie nights on the other side, and to wear a bandage in the daytime; (*b*) when the patient suffers from muscular pains on one side, she should most of the time rest on the other side.

(2.) At what time, during parturition, is position of importance? Unless the circumstances already indicated are present, the position of the parturient during the first half of the labor is immaterial; if they do exist, they should be taken into consideration during the whole course of labor, especially when the presenting part lies high up. Aside from these, during the second half of the labor the position must be chosen with reference to the following two questions: the first concerning the requirements of nature on the parturient female to assist in the labor, and the second the mechanism of labor.

(3.) In what position can a woman in labor best assist herself? The voluntary assistance which she can give consists in forcible abdominal "bearing down" and fixation of the pelvis. If she takes a deep inspiration at the beginning of a pain, thereby giving the abdominal muscles a *point d'appuis* or support from the thorax, and at the same time presses her feet against an immovable body, and firmly grasps some object with her hands, she can well fix the pelvis as she pushes the body up with the feet, and, with the same amount of force, down with the hands; the abdominal muscles again receive a point of support from the pelvis, and the woman can bear down all the more forcible, as she has just taken in a deep breath, while the expanded lungs can take up more blood, which, in view of the congestion of the head during each uterine pain, may also be of some importance. Now as to the third question asked, it seems to Dr. H. to be beyond doubt that a woman can in the knee-elbow position not at all, in the position on either side only imperfectly, and on her back (with the upper part of the body lying more or less high, according to circumstances,) easiest and best aid in the labor.

(4.) In what position is the mechanism of labor least interrupted? According to Dr. H's experience, the position on the back, *per se*, never offers any interruption to the mechanism of labor; raising the pelvis and holding the fundus uteri upward by means of a towel, so useful in many cases where the relaxed abdomen greatly projects and hangs down, cannot be accomplished in the side position.

In cases of turning and extraction, there are also no objections to the position on the back, while in many cases there are objections to that on either side. Occasionally, it is true, circumstances may render the side position preferable to that on the back, but Dr. H. *in general advocates the latter*, not denying, however, that sometimes in different cases of turning a mere change of position may lead to favorable results.

84. Dr. Timermans has submitted to the Academy of Turin a paper on the treatment of blenorrhagic orchitis, by means of ice-cold lead-water, constantly applied. After discussing the various methods of treating orchitis, and reporting the details of seven cases, he concludes that these ice-cold applications do not, as had been feared, induce disease in other parts, (ophthalmia, parotitis, arthritis;) and that they are the more efficient the earlier they are employed. Rest, diet, and suitable position of the testicle are at the same time insisted on. Abstraction of blood is unnecessary; cachectic conditions of previous gonorrhœal gout form no contra-indications. Indurations of the cord are unaffected by the applications. The efficiency of the method is explained by extraction of heat from the inflamed parts, retraction of the testicle, puckering up of the scrotum, and increased contraction of veins.

Dr. A. Sella, commissioned by the Academy to investigate T's statements, bases a very favorable report on two additional cases, and sees the benefit of the astringent icy applications mainly in its chilling, anæsthetic effects.

Dr. Berruti's conclusions are: (1.) The treatment of orchitis proposed by Timermans is not new. (2.) It can with benefit be employed, but by no means for all cases. In commencing orchitis, and in mild cases, the use of ice may render abstraction of blood unnecessary; but in advanced and severe cases, general, and especially local blood-letting, deserves more confidence. (3.) Whenever cold is to be employed in these cases, the method of Curling (bladders with ice applied to the well-supported and raised testicle in the first days of the disease) is preferable to all others.

Dr. Mühlig gives nothing new in his article on the subject. Of the various modes of treatment recommended, he has had most success with the puncture of the tunica vaginalis, as recommended by Velpeau, and the methodical compression of the testicle with adhesive strips. The first method is, according to him, indicated in all severe cases; the latter in cases of less severity, and in the period of the decline of inflammation.

85. According to Prof. Hoppe, all external collyria act only by giving to the vessels an impulse of modified activity, either contracting

them, or the reverse. He makes no specific difference between the individual substances, (lead water, cold water, nitrate silver, red precipitate, laudanum, belladonna, fennel-tea, etc.,) and proposes ol. rosmarini and tincture aconite to combat hyperæmia of the lids, and even congestion internally. Of the aconite tincture, twenty drops are recommended to a drachm of cerate; and of the oil of rosemary, not more than one scruple to two drachms of liquid. [In cases where other means have been tried in vain, there are, we suppose, no objections in trying these too, as frequently a mere change is beneficial.]

REVIEWS AND BIBLIOGRAPHY.

A Treatise on the Practice of Medicine. By Edwin R. Maxson, M.D., formerly Lecturer on the Institutes and Practice of Medicine in the Geneva Medical College. Philadelphia: Lindsay & Blakiston. 1861. Pp. 705. (Price, $4.00.)

Partiality of an author for his production is as pardonable and as inevitable as the oftentimes more inexplicable "merit-seeing" of parents in their children. But the impartial critic is frequently in a quandary when he asks himself the question, *Why must this book have been published?*

Our learned German cousins describe a species of *Cacoethes Scribendi*, the etiology of which would indicate an extreme shortness of the mental aliment-ary canal, necessitating the excretion of the slightest morsel of knowledge, digested or undigested, very soon after ingestion. And if it shall become a settled fact, or rather a recognized fashion and established certainty, that every teacher or lecturer in any branch of medical science must "write a book on the subject," may Heaven have mercy on the poor reviewers, not to speak of the medical public at large. "Earnest solicitation of members of the medical class, for whose opinion I entertain the highest respect," alone, seems certainly at the present day no sufficient reason for adding another to the many—some excellent, some indifferent, and some useless—treatises on the Practice of Medicine that already exist. Dr. Maxson, judging from what he tells us in his preface, evidently, not only honestly intends, but also confidently believes his book to be a desideratum, an interesting and valuable work both for medical students and mature practitioners; and he must be prepared to give proof of the *reasons* "for the hope that is within him."

Such were the thoughts with which, after having duly read title and preface, and truly anxious to see how the frank avowal of independence and the self-sufficient confidence assumed had been sustained, we set about scanning the 700 pages before us.

Our author divides his work into fifteen chapters. The first, subdivided into five sections, treats of Disease, its nature, causes, symptoms, diagnosis and treatment. Disease is defined to be a deviation from health. "Man, as he came forth from the hand of the Creator, was a perfectly constituted being." "It is probable that if man had always obeyed the laws of his being, we might have escaped pain, disease, and death, and like Enoch and Elijah, 'having walked with God,' we should have been removed to a more elevated state or genial clime, and thus escape the really unnatural passage 'through the valley of the shadow of death.' * * * * It is unreasonable to suppose that accidents or even the elements in nature which now appear to produce disease, would have harmed man if he had retained his original purity and always obeyed the laws of his being." The human body might then have "probably retained the health and vigor of youth, never decaying, never wearing out, and thus man, as I have already suggested, might probably have remained *physically immortal.*" But "we must take the human body as it is; bruised and shattered by the numberless deviations from the laws of health since the creation of man, every one of which has tended to mar this handiwork of God, till we now inherit scarcely constitution enough to enable us to live on, even with prudence on our part, to seventy years; while those who are imprudent, or inherit a greater degree of physical degeneracy or imperfection, may scarcely continue even a miserable existence through the periods of youth, childhood, or even infancy." "We must take, then, the human system in the most perfect state in which we find it at the present day, together with our imagination of what it should be, as our standard from which to calculate disease; and we should bear in mind, also, that man is a triune being, with body, mind, and a moral nature, and that a healthy physical organization is indispensable to the perfect development of the intellectual and moral man," [as well as that healthy intellect and morality—our author might have added—are indispensable to perfect physical human health.] "A person may be said to be in health when the fluids and solid tissues of the body are in such a state that all the functions of the body are carried on harmoniously; taking into account, of course, hereditary physical imperfection, or predisposition to disease. But all variations from this standard, involving a derangement of structure or function, and causing suffering or endangering life, we may call disease." Again, "we may conclude, then, that *disease* consists in a derangement of the system, either *general* or *local*, involving more or less the *fluids* and *solid tissues* of the body, and especially the *blood* and *nervous system*, and embracing every possible deviation, whether *organic* or *functional*, from the standard of health."

The causes of disease are divided into predisposing and exciting, with the qualification that every agent or influence which is capable of predisposing the system to disease, is capable, under other circumstances, of acting as an exciting cause of disease, and that the exciting causes, under favoring circumstances, predispose the system to disease. As predisposing causes are named and separately discussed—Hereditary Predisposition; Filth; Food, if it be improper, too much, too little, or taken irregularly; Improper Clothing; Licentiousness in all its forms, as Masturbation, Onanism, and Excessive Sexual Indulgence; Intoxicating Liquors; Tobacco, and Anger. As exciting causes: Heat; Cold; Water; Electricity; Light; Aerial Poisons, as carbonic acid, carbonic oxide, carbureted hydrogen, etc.; Vegetable poisons, of which the author says: "It is not necessary for me to enumerate them here, as the good sense with which God has endowed His creatures generally enables them to avoid their pernicious influences, if we except one, and that the most disgusting of them all, '*Tobacco;*'" Mineral Poisons; Parasites, animal and vegetable; Koino-Miasmata or Malaria; Idio-Miasmata or Animal Effluvia, *i. e.*, "the noxious effluvia which result from the decomposition of exhalations and excretions from the bodies of persons of filthy habits, [fæces, urine, saliva, sweat, etc.] when crowded together in filthy, confined apartments, etc.;" the author not, however, including under this head "those emanations which are the result of a secretory process, and have the power of producing the same disease in others by which they have been produced, namely, the contagions;" Contagion, which the author defines to be "any product of a peculiar disease, [which "may be the product of secretion or exhalation,"] whether in a solid, fluid, or aeriform state, which is capable of producing the same disease in another person, and of propagating itself as well as the disease of which it is the cause and effect, 'through any number of unprotected individuals,' the disease thus propagated being properly called contagious;" Endemic Influences; and Epidemic Influence.

Section III. contains a meagre account of the "general symptoms developed in diseases of the nervous system, the digestive system, the circulatory system, the respiratory system, of the eye, the ear, the skin, the urinary organs, and the genital organs;" and the next section general directions—many of them rather indefinite—as to the diagnosis of disease.

We then come to the last section of Chapter I., to the Treatment of Disease; and this is the first paragraph: " By *treatment of disease*, or *therapeutics*, I mean here, to attend upon or alleviate the sick; and also the *modus operandi* of remedies, as well as the rules for applying them, etc. I wish, however, to offer only a few general suggestions here, and will therefore consider, first, the duties of the physician in attending upon the sick, and will then inquire into the best method of fulfilling indications, etc.; and lastly, give some general rules which may serve as a guide in administering or applying remedies, etc."

After dwelling on the necessity of a correct diagnosis, our author properly insists on the principle that "nothing should be prescribed, as a remedy, without first getting a clear Indication." "By *indications*, I mean any manifestation offered by disease of what is proper for its removal." "Indications, then, may point to any remedial measure, such as removing the cause of the disease, correcting bad habits, exercise, fresh air, cheerfulness, and, in fact, to any and everything that could tend to restore health. When, then, indications are once discovered, they should be fulfilled, and, in just so far as they can be, without the administration of medicines. For medicine, it should be remembered, is at best little better than a *necessary evil.* * * * * Among the most prominent indications that are liable to be presented, in diseased conditions, are, for depletion, repletion, dilution, stimulation, sedation, revulsion, suppression, alteration, chemical action, mechanical influence, etc." Some practical suggestions are thrown out in relation to the best method of fulfilling each of these.

A few words on the necessity of knowing thoroughly the various classes of remedies and individuals of the materia medica; of care to be taken that genuine drugs are exhibited, that they be given as little combined and as palatable as possible, and that the dose be well proportioned to the age, etc.; of writing prescriptions plainly, and of having medicines put up and administered by proper persons; of keeping patients quiet, and guarding against intruding friends; and of not starving patients, "even though they may be laboring under acute disease," ["If, then, as is often the case, there be no appetite for solid food, broths or milk, diluted with an equal part of toast-water, may be given; and as soon as the appetite returns for food, toast, or some other suitable form of food, should be given, at meal hours, through the whole period of convalescence,"] end the first chapter.

In the second chapter the author takes up the subject of irritation, meaning thereby "a morbid disturbance in the vital action, in the whole or any part of the system, short of inflammation, involving primarily the nerves, and being attended with more or less pain." This is traced to its termination in the re-establishment of health, *i. e.*, resolution; and also to its morbid result, *i. e.*, congestion. Congestion is defined to be "an undue accumulation of blood in the extreme arteries, veins, or capillaries of any organ or structure of the body." After briefly alluding to its nature, causes, diagnosis, and treatment, and stating that "congestions, then, whether active or passive, or more especially local, and not attended with any very marked general exaltation or depression of nervous, vascular, or vital power, is liable, if the cause be removed, to terminate by resolution; or it may pass on to pulmonary or cephalic apoplexy; or if the congestion be active, it may be followed by active, or if it be passive, by passive inflammation," the subject of inflammation is noticed in somewhat greater detail. Its various symptoms or phenomena and diagnosis; its causes, morbid appearances, nature, and the theory of inflammation; its terminations, modifications, and varieties, and finally its treatment, our author successively discusses by no means exhaustingly, even in general principles, still rather ably. The reader may already have observed that our author sees in the nerves of any part the first point attacked, when a cause which may produce inflammation acts upon that part. "The nerves of that part become irritated, and this irritation produces either immediately or mediately a dilatation of the small arteries, veins, and capillaries of the part. If contraction first takes place, as it may in a sthenic condition of the system, there is at first a paleness of the part, caused by the blood being in part forced from the small vessels. But if dilatation occurs at once, as it is likely to do, in an asthenic state of the system, no paleness of the part occurs; but we have developed redness, heat, pain and swelling." At this point of our review we may already state the fact which became entirely evident to us, after a careful examination of the whole book, that, throughout, our author holds plain common-sense views, differing but little from those recently held by the majority of educated and observing physicians, on both pathology and treatment, while he seems ignorant, as yet, of cellular pathology, and the latest researches and developments in physiological and pathologico-anatomical science, as well as of the *full extent* of the remedial resources of the rational, scientific physician, who is "up" to the present day and hour.

In the first two chapters our author has prepared the way for the profitable consideration, on the same basis, of the pathology, causes, and phenomena of fever; and to this he devotes, in three sections, the third chapter; while in the next two he takes up the description and treatment of individual fevers; namely, in Chapter IV., headed General Fevers: 1. Intermittent; 2. Bilious Remittent; 3. Simple continued; 4. Enteric continued; 5. Typhus continued; 6. Yellow Fever; 7. Plague; 8. Diphtheria; and in Chap. V., Exanthematous Fevers, including: 1. Variola; 2. Vaccina; 3. Varicella; 4. Rubeola; 5. Scarlatina; 6. Erysipelas; 7. Purpura; 8. Glanders; and 9. Dengue. Chap. VI. is headed General Inflammatory Diseases, and treats in separate sections of Acute Rheumatism, Chronic Rheumatism, and Gout. The last-mentioned ends the list of general diseases.

Entering upon the examination of the remaining nine chapters, which are devoted to local diseases, we meet with a peculiarity of the work to which the author himself refers, as follows: "It will be seen that I have glanced at the anatomy and physiology as I have taken up the diseases peculiar to each part of the human system. This I have done in part to make the work more valuable to those practitioners of medicine who have not time to review anatomy and physiology; but more especially to keep the mind of the reader fixed on the diseased part and its conditions, thus rendering the work not only more valuable, but I trust more interesting." The attempt to give in so small a compass an anatomical description of systems and organs in connection with their diseases, and the remedies for these, certainly savors a little too much after *vade-mecum* style for a systematic treatise, and will, we fear, be condemned by many of those of our profession whose opinion should, and does, carry with it the greatest weight. But a just appreciation of the actual needs of the great mass of practitioners induces us to look very favorably on this feature of the volume. In the execution of this plan, we greatly miss, however, what would have been most particularly welcome, namely, the accurate histological anatomy, especially such as has been recently positively determined. Chap. VII., headed Diseases of the Nervous System, opens with Cephalalgia, and proceeds with, 2. Meningitis; 3. Cerebritis; 4. Tuberculous Meningitis; 5. Spinal Meningitis; 6. Myelitis; 7. Cerebro-spinal Meningitis; 8. Apoplexy; 9. Paralysis; 10. Epilepsy; 11. Catalepsy; 12. Chorea; 13. Insanity; 14. Mania-a-potu; 15. Eclampsia; 16. Hysteria; 17. Spinal Irritation; 18. Tetanus; 19. Hydrophobia; 20. Neuralgia; 21. Amaurosis; 22. Singultus. Chap. VIII. treats of the Diseases of the Digestive System, viz.: Sect. 1. Stomatitis; 2. Glossitis; 3. Pharyngitis; 4. Tonsillitis; 5. Parotitis; 6. Œsophagitis; 7. Acute Gastritis; 8. Chronic Gastritis; 9. Cancer of the Stomach; 10. Peritoneal Enteritis; 11. Mucous Enteritis; 12. Dysentery; 13. Malignant Dysentery; 14. Cancer of the Intestines; 15. Acute Peritonitis; 16. Chronic Peritonitis; 17. Acute Hepatitis; 18. Chronic Hepatitis; 19. Splenitis; 20. Dyspepsia; 21. Diarrhœa; 22 Cholera Morbus; 23. Malignant Cholera; 24. Cholera Infantum; 25. Flatulent Colic; 26. Bilious Colic; 27. Lead Colic; 28. Intussusception; 29. Constipation; 30. Intestinal Worms; 31. Hæmorrhoids; 32. Jaundice. Chap IX. of the Diseases of the Respiratory System, preceded by a section on their physical exploration, viz.: Sect. 1. Auscultation and Percussion; 2. Pleuritis; 3. Pneumonia; 4. Bilious Pneumonia; 5. Catarrh; 6. Laryngitis; 7. Tracheitis; 8. Laryngo-tracheitis; 9. Acute Bronchitis; 10. Chronic Bronchitis; 11. Asthma; 12. Whooping-cough; 13. Tubercular Phthisis; 14. Apnœa; 15. Pneumothorax; 16. Emphysema; and Chap. X., in the same manner, of the Diseases of the Circulatory System, viz.: Section 1. Auscultation of the Heart; 2. Pericarditis; 3. Endocarditis; 4. Carditis; 5. Organic Diseases of the Heart; 6. Sympathetic Affections of the Heart; 7. Neuralgia of the Heart; 8. Syncope; 9. Arteritis; 10. Phlebitis; 11. Crural Phlebitis; 12. Hæmorrhage; 13. Epistaxis; 14. Hæmatemesis; 15. Intestinal Hæmorrhage; 16. Hæmaturia; 17. Hæmoptysis; 18. Metrorrhagia; 19. Scorbutis; 20. Anæmia; 21. Hydrops; 22. Anasarca; 23. Ascites; 24. Hydrothorax; 25. Hydropericardium; 26. Hydrocephalus; 27. Scrofula; and 28. Bronchocele.

In Chap. XI. the anatomy and the following diseases of the eye are described briefly, but to the point: Catarrhal Ophthalmia, Purulent Ophthalmia, Scrofulous Ophthalmia, Rheumatic Ophthalmia, Corneitis, Iritis, and Exophthalmia. In the same brief but straightforward and practically valuable manner, the anatomy and physiology and the following diseases of the ear are dispatched in Chap. XII.: General Otitis, External Otitis, Internal Otitis, Otorrhœa, Otalgia, Nervous Deafness.

Chap. XIII. treats of Diseases of the Skin. These are primarily divided into Rashes and Eruptions. The former are divided into Red Rash, Rose Rash, and Nettle Rash; the latter into Papular Eruptions, Vesicular Eruptions, Pustular Eruptions, Scaly Eruptions, Animalcular Eruptions, and Cryptogamous Eruptions. The Rashes, "whether the result of a direct irritant, or sympathetic of gastro-intestinal irritation, consist in a congestion of the cutaneous capillaries, attended in some cases with inflammation of the dermoid structure, either diffused or in patches, and hence the redness, slight swelling, and burning or itching which attends, the cutaneous nerves being involved in the irritation;" while the Eruptions, "whether the result of a local irritant or of a deranged or depraved condition of the fluids of the body, consist of an inflammation of the dermoid structure, either active or passive; the elevations in the papular variety consisting of enlarged papillæ, those in the vesicular of a watery, and in the pustular of a mattery fluid, poured out under the cuticle. The scaly eruptions consist of elevations of the cuticle, caused directly by disease of the sebaceous glands, or by an obstruction in their excretory ducts, in consequence of which the cuticle becomes dry and scales off, leaving portions of the derma in a raw and exposed state. Finally, the animalcular eruptions consist of slight elevations containing matter, the result of the burrowing under the cuticle of a living animal; and the cryptogamous consist of a parasitic vegetable growth." A summary account of the structure and functions of the skin, and general remarks as to the symptoms, diagnosis, causes, nature, and treatment of rashes and eruptions, constitute the first section; while each variety in the order named is discussed separately in subsequent sections. This chapter we are able to commend most strongly, for its eminently plain and practical character.

Chapters XIV. and XV. are devoted to diseases of the urinary and genital organs respectively: the former including, 1. Nephritis; 2. Albuminuria; 3. Nephralgia; 4. Acute Cystitis; 5. Chronic Cystitis; 6. Diabetes Mellitus; 7. Diabetes Insipidus; 8. Lithiasis; 9. Suppression of Urine; 10. Retention of Urine; 11. Dysuria; and 12. Incontinence of Urine; the latter—1. Spermatorrhœa; 2. Gonorrhœa; 3. Syphilis; 4. Metroperitonitis; 5. Chronic Metritis; 6. Disease of the Cervix Uteri; 7. Leucorrhœa; 8. Amenorrhœa; and 9. Dysmenorrhœa.

A few concluding remarks and a well-prepared index then bring the volume to a close.

In the foregoing we have endeavored to present a just and full view of the contents of Dr. Maxson's book. We have quoted sufficient from the first chapters to give our readers an idea of the animus and stamina of the author. Judged from his work, he must be a correct observer, of plain, strong common sense, having the progress and perfection of the healing art and the amelioration of suffering humanity earnestly at heart, free from prejudice and open for conviction.

He should be, and we presume *is*, an eminent practitioner. The fact of his employing, and thereupon, sincerely recommending, some valuable remedial agents (and among them active or proximate principles of our medicinal plants) as yet for various reasons under the ban and misunderstood by many regularly educated physicians, is an honor to him, and of benefit to his patients; giving, also, a certain additional value to his book. We have cited, however, no details in our review, as we could not find that he has thrown any new light on, or made any striking original contributions to, medical science or practice in this or other respect. He further tells us:

"I have attempted to draw up the work without even the shadow of empiricism, by taking the human system in health as the standard, and then noting the deviations from that standard constituting the various morbid conditions or diseases. By taking this course, I have been enabled to arrive at clear indications of treatment from direct pathological conditions for every prescription which I have made. This course by no means precludes the benefit of experience in the use of remedies, as remedies indicated from pathological conditions are always those which experience finds the most successful; I have preferred, then, to arrive at them in this way, rather than empirically, as it tends to lead the mind of the student and practitioner of medicine to prescribe for *conditions*, without reference to names."

And again: "I have preferred thus to suggest only the *best* remedies to fulfill the indications in each particular case, thus avoiding the confusion from a multitude of inferior ones, especially as the student even will never find it difficult to arrive at a poorer remedy of a class, if from any accidental circumstance the best remedy should be contraindicated, which is very seldom the case."

Now, with all possible praise of his presentation of a uniformly rational therapy, and unfeigned deference to his "twenty years' experience" and manifestly eminent practical knowledge, we must warn our readers that however tempting and convenient the exhibition of "positive remedies" is, their success is by no means as uniform. Still, in their own interest and that of their patients, we commend the whole subject-matter of Dr. Maxson's book to their favorable notice.

With this account of the *matter* of the volume before us, we must now for a moment turn to its *manner;* and here, we regret to say, all commendation is at an end. The author tells us that it "consists in part of a course of lectures not designed for publication," and this fact may, perhaps, explain some of its many faults in this particular.

In seeming partial consciousness of the absence of "polish of style," he further explains as follows:

"My professional career thus far has been one of activity, having been engaged in an extensive practice, which has absorbed nearly all my reasonable waking hours, during which I have gathered up the ideas here incorporated, in a form, I trust, however, to be understood. And while I may not have given my work the polish of style which it might have received had more leisure been afforded me, I confidently believe it will be none the less valuable as a practical treatise, for having been arranged and written in the midst of an exciting and extensive practice."

We cannot admit, however, but that the author's trust as well as confident belief, as far as style is concerned, appears to us ill-founded, for, to say the least of it, the style in *many* places is wretched, and in *not a few* the grammar below all criticism. In various parts of the book, whole pages, from their contrast to others, seem to have been corrected by another hand; if this is true, it is a pity the whole of it was not so revised. The work, we are assured, was under contemplation for several years, and written during the past two years. Surely, its matter was good enough to keep until sufficient time could be found, if that was all that was needed, to give it a suitable dress.

The publishers have performed their part *well.* L. E.

1.—*Etudes sur la Monorchidie et la Cryptorchidie chez l'Homme.* Paris, 1857. Pp. 180, roy. 8vo.

2.—*Recherches Tératologiques sur l'appareil Séminal de l'Homme.* Par ERNEST GODART, M.D., &c., &c. Paris, 1860, roy. 8vo. 14 lith. plates. Pp. 148.

The notice of the two works by M. Godart which head this article we transfer to the MONTHLY from the *Glasgow Medical Journal* for April, 1861. It presents in brief compass an exposition of some of the observations and conclusions of the able author.

Of the first of the above works we have only seen an abstract. From this it appears that the author gives an account of the condition depending upon the non-descent of the testis on one or both sides, from the history of previous authors, and from cases coming under his own observation.

The more important conclusions which he has deduced from his study and observation are the following:

M. Godart defines monorchidia to be the absence of one of the testes, from its not having descended from the abdomen into the scrotum, and cryptorchidia to be the absence of both testicles from the same cause. These affections are both to be distinguished from congenital anorchidia, which is the term applied to the entire absence of one or both of the glands, and of which several cases are described by the author in both of the works above referred to.

The causes of monorchidia he states to be either—1. Hereditary predisposition; 2. An arrest of development of the corresponding side of the body; 3. An inflammation of the testis; and 4. Malposition in the course of the descent. M. Godart describes, step by step, the descent of the testis, and informs us that lesions of the gubernaculum testis are more freqnently than is generally known the cause of malposition of the organ. The left testicle he states to be more frequently arrested in its passage than the right.

Although the arrested testicle is of an apparently perfectly healthy glandular structure, and secretes a fluid resembling semen, yet in none of the cases which have come under the author's observation has the fluid been found to contain spermatozoa. But if the second testis has descended into the scrotum, it alone is sufficient for fecundation.

The arrested testicle may be the seat of morbid alterations of various kinds, such as tubercle, cancer, &c., and M. Godart states that these diseases are most liable to occur in the arrested organ of the right side.

It is more rare to find the descended testis diseased and the arrested one healthy. M. Godart describes such cases in which the morbid affection was various, and states, as the result of his observation of four cases, that such persons are capable of ejaculation, (from the secreted product of the arrested testicle, as he supposes,) but the fluid discharged contains no spermatozoa.

M. Godart has observed only three cases of monorchidia, in which both the descended and arrested testis were affected with disease.

Cryptorchidia.—This condition, which is a malformation in man, is the natural condition in a number of animals, in which it interferes in no degree with the generative powers.

He regards the causes of this condition the same as those of monorchidia. He describes several cases, and states as the usual modification of the system accompanying it, a moderate stature, fair complexion, little vigor, high voice, youthful appearance, timidity, &c.

Persons afflicted with cryptorchidia in whom the testes are well developed are capable of ejaculation, but the semen is without spermatozoa, and they are incapable of fecundating. Four married persons in this condition whom he had observed had had no children.

In addition to the facts and views now stated the work appears to contain a number of interesting minor contributions to the history of the functions of the productive organs of generation.

The second work is in part a reproduction and extension of the author's inaugural thesis, sustained at the Medical Faculty of Paris, in 1858, "On the Congenital Absence of the Testicle." It contains, in addition to the general history of his subject, an account of the author's observation of a variety of interesting cases of malformation of the seminal organs, and is illustrated by numerous well-drawn delineations of the external appearance and deeper dissections of these cases.

After some preliminary and general considerations upon the physiological relations of the various kinds of glands, the author describes a number of cases of unilateral anorchidia, or absence of the testicle.

In these cases it appeared that there existed very various degrees of absence of the conducting tubes, but in all of them the body of the testis was entirely absent. In some the epididymis, vas deferens, and vesicula seminalis existed, and in various degrees; in others one or other of these parts, or all of them, were also absent. When the vesicula seminalis and vas deferens existed, they contained a considerable quantity of their usual secretion, but without any spermatozoa being detectable in this fluid. Such cases are to be distinguished from those which are the result of castration by the existence of a cicatrix in the latter, and from those which are the effect of injury by the presence of the testicle, though reduced in size in the latter instances.

In such cases, if the other testis is sound, the man does not appear to suffer from the congenital absence or imperfection of the organ on one side, but on the contrary he possesses all the powers which belong to those possessing both organs perfect. If, however, the testicle which is present is affected with disease, or even if it should not have descended into the scrotum, the person will be incapable of procreation. Ejaculation may be possible, but it will be without effect.

In cases of the congenital absence of both testicles, a very different state of matters exists. The external organs are little developed, scarcely passing in size those of a boy of ten or twelve years of age. The hairs on the pubis are in general scanty and soft, and the intrapelvic portion of the organs presents the same inferiority in its development. The scrotum is also absent in those cases in which the epididymis and vasa deferentia do not exist. The person so affected is entirely impotent, and incapable of ejaculating any seminal fluid; but this is to be distinguished from the case of double cryptorchidia, or testes arrested in their descent, in which the individuals are capable of seminal discharge, but incapable of procreation, as there is an absence of spermatozoa in the fluid ejaculated.

Individuals affected with double anorchidia are usually weak and timid, exhibiting little mental capacity, of a soft habit of body, and having a shrill, high voice. They are, in fact, in all respects similar to those who have been mutilaled in early infancy.

The third class of cases described by M. Godart presents considerable interest—consisting of those in which the one or both testes have been present, but with an imperfect or closed condition, or more or less complete absence of the vasa deferentia and vesiculæ seminales.

In such cases the vasa deferentia may be defective in some part of their course through the inguinal canal, or they may be wanting at either terminal portion. In the case of the terminal portion being wanting, the vesicula seminalis is also absent; and in the case of the commencement being defective, the epididymis generally participates more or less in the same imperfection. But it is a remarkable fact that in several of these cases the testis was of considerable size, of natural glandular structure, and appeared to have secreted a fluid resembling semen, although spermatozoa were not, in several instances, detected in it.

In some instances it is to be remarked the vesicula seminalis is absent, while the vas deferens is natural.

The most remarkable fact, however, upon which the author insists, is that in some of these cases, notwithstanding the absence of a considerable part of the emitting tubes, the testis was not only of natural size and structure, but had actually secreted a fluid containing the natural spermatozoa. But this state of matters does not appear to have induced any unnatural condition of the gland, or of the system in general.

With reference to the influence which the absence of the seminal passages may exercise upon the generative function, M. Godart refers to the experiments of Sir Astley Cooper, Mr. Curling, and M. Gosselin,* as well as some of his own, in proof of the fact that the removal of a part of the seminal ducts, which is always followed by closure of the divided ends, does not induce atrophy of the testis, but that on the contrary the gland continues to be developed in young animals, and maintains nearly its natural size in adults, and besides appears to continue to secrete natural spermatozoa. Of course the animal is rendered sterile, as the semen cannot be excreted by the natural passages; and it is equally surprising in those animals experimented on, and in the cases of congenital closure of the passages, that the distention of the parts of the ducts remaining in connection with the testis does not appear to produce any serious hurt to the organ, nor general inconvenience. We may suppose that the secreted fluid is removed by absorption into the system.

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* Nouvelles Etudes sur l'Oblitération des voies Spermatiques et sur la Sterilité consécutive à l'Epididymite bilatérale. 1848.

In such persons it would appear that the venereal appetite may exist, and that ejaculation of a fluid may be possible; but it need scarcely be added, that if the affection exist on both sides, they must be entirely sterile.

At some future time we may lay before our readers other interesting observations on a closely allied subject, together with its practical and medico-jurisprudential bearings. L. E.

The Physician's Pocket Dose and Symptom Book: Containing the Doses and Uses of all the principal Articles of the Materia Medica and Officinal Preparations; also Table of Weights and Measures, Rules to proportion the Doses of Medicine, common Abbreviations used in writing Prescriptions, Table of Poisons and Antidotes, Classification of the Materia Medica, Dietetic Preparations, Table of Symptomatology, Outlines of General Pathology and Therapeutics. By Joseph H. Wythes, A.M., M.D., Author of "The Microscopist," "Curiosities of the Microscope," etc., etc. Third Edition. Philadelphia: Lindsay & Blakiston. 1861. Pp. 244; small 12mo.

Many of our readers are acquainted, we suppose, with the little work, a new edition of which we here announce. Even to those who are not, we need say no more as to what it contains, having printed the full title-page: at the same time a table of contents. It is a *vade-mecum,* in which the most useful information is compressed into the smallest possible compass, or, as some would call it, a veritable *Pons Asinorum* of medical practice. And however much some may affect to sneer at and spurn such "Aids," there certainly is a strong demand for them, as, indeed, the necessity of a new edition, even in times like these, abundantly testifies.

We cannot say more nor less, than that we advise all who need or want *any* such publication, to be sure to get Wythes' Pocket Dose Book. L. E.

Buffalo Medical and Surgical Journal and Reporter. Edited by Julius F. Miner, M.D., Surgeon to Buffalo General Hospital. Vol. I., No. I. August, 1861.

Most gladly do we extend the right hand of fellowship to this brave newly born. Amid the din and turmoil of the terrible struggle for national existence that convulses our fair, beloved land—where all interests suffer, we knew that more than one valuable medical journal would receive its death-blow; and the plaintive swan's song-tones of many a valiant expiring cotemporary has painfully fallen on our ears. We expected death in our ranks—and it has come. But that in these times any so lion-hearted aspirant to honors editorial could be found as to father and send out into the stormy ocean a new and untried craft, we would scarce have dared hope. Yet it greets us, and again we bid it welcome!

It is with peculiar pleasure, indeed, that we chronicle the birth of a successor to the "old *Buffalo Medical Journal.*" We recall with pride that its prototype, or, as it calls it, "our home organ in medicine, so long and ably conducted," since the deprival of which, says it, "we have (still) better appreciated its value and influence, and most deeply felt its loss," has swelled with its "pure and unsullied" stream, and finally submerged into, the waters that bear our own gallant ship. We assure the new *Journal* of our sympathy, and bid it God-speed in its efforts to emulate its predecessor. May it prove worthy of its name, remembering if any one "should in any way attempt to detract from the honor of the *Journal*, to violate its chastity," "*turn him out*," and also rather than have it ever degraded, "play the part of the Roman father." Our best wishes for long life and prosperity are ever with it in its upright and onward course. L. E.

Pamphlets Received.

Medical Communications, Vol I., No. 2, with the Proceedings of the Sixty-Ninth Annual Convention of the Connecticut Medical Society, held at New Haven, May 22d and 23d, 1861. Hartford: 1861.

Modus Propagandi of the Human Species. Physiologically Explained. By John O'Reilly, M.D. New York: 1861.

Announcement of the Medical Department of the University of Louisville, for the Session of 1861–62.

TRANSLATED FROM THE FRENCH, EXPRESSLY FOR THE MONTHLY.

Lectures on Diphtheria. (Egyptian Disease.) Delivered at L'Hôtel Dieu, Paris. By M. TROUSSEAU.

(Translated by the Editor * from La Clinique Médicale de L'Hôtel Dieu, of M. Trousseau.)

(Continued from Vol. XVI., page 72.)

Diphtheritic Paralysis

Is not a new Disease.—Mild Form.—Symptoms.—Paralysis of the Veil of the Palate; of the Senses; of the Limbs; of the Muscles of Organic Life.—Death by Suffocation; by Strangling.—Severe Form.—Ataxo-adynamic Symptoms.—Severity not in Proportion with Intensity; the Duration of the Membranous Affections not in Proportion with Albuminuria.—This Paralysis is the Result of a sort of Intoxication.—Treatment.

GENTLEMEN—We remained a long time in our ward St. Bernard by the side of a young woman whom you found stretched out in an arm-chair, from which she could not raise herself. This patient, who occupies bed No. 9 in this ward, was attacked with paralysis more than three months ago; we have seen its accidents gradually developing before our eyes. She affords us to-day a remarkable example of paralysis consequent upon diphtheria, an affection which is doubtless not new, but which has been well investigated for a short time past only, and concerning which I am about to speak to you at this time.

The case which affords me the opportunity to do so is so interesting, that I do not fear to report it to you somewhat in detail. This patient, twenty-eight years of age, entered the hospital the 6th of August, 1859; eight days before, she had experienced a sense of uneasiness, and a violent cephalalgia; she had had fever, sore throat, and profuse sweats; the following day she had vomitings, and lost all appetite.

A particular important to be noted is, that this young woman had left our ward only about a fortnight before, whither she had come to be treated for lumbago; at that time she was placed in a bed near another patient attacked with diphtheria, and whose child died of croup. From them probably she took the disease which brought her back to Hôtel Dieu.

At the morning visit, on the 7th of August, we perceived the existence of the most extensive membranous angina; the uvula and tonsils, entirely covered with false membranes, presented only a surface of grayish white. I cauterized the parts immediately with chlorhydric acid. I prescribed insufflations of alum, which were to be repeated several times in the course of the twenty-four hours; a decoction with six grammes of perchloride of iron, and an infusion of black coffee, to which was to be added quinquina in powder.

The following day we were shown a very thick false membrane, which was detached from her throat; this diphtheritic concretion was two centimetres in length by one in breadth. On the outer surface we could see the traces of the previous day's cauterization, and that by which it adhered to the mucous membrane was marked by fine reddish arborization. In the throat we found the false membranes less abundant, and occupying especially the uvula and the posterior pillars of the veil of the palate. The cervical ganglia, principally those on the right side, were swollen. On examining the urine, we obtained a considerable quantity of albumen. We continued the decoction with perchloride of iron, the dose of which was increased to eight grammes; then I caused a strong solution of tannin to be carried into her throat by means of an apparatus *pulvérisateur* invented by Dr. Sales-Girons, for the inhalation of medicinal waters.

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* During the absence from the city of the Editor, his brother, George Douglas, Esq., has kindly consented to continue the translation of these important Lectures, and to him our readers are indebted this month already. L. E.

During the night from the eighth to the ninth of August, the patient was seized with an attack of difficulty of breathing, which necessitated the calling of the ward physician; he also drew from her pharynx a thick false membrane, the cause of this difficulty; however, from that time the pseudo-membranous concretions became from day to day less and less thick, and less and less extensive. On the 11th, after having taken off a very thin coating, we cauterized with chlorhydric acid the place which these false membranes had covered, and on the 16th there remained only a few small white spots. The diphtheria seemed definitively arrested. Nevertheless, the perchloride of iron was continued; the dose increased to ten grammes a day; this medicine was not suspended until the 23d of August.

Nevertheless, the urine, tested by heat and nitric acid, still precipitated a considerable quantity of albumen; and to conclude at once what I have to say relative to this phenomenon, I will remark, that from the 15th of August to the 12th of September, it presented notable variations; the precipitation being sometimes less, sometimes more abundant, but indeed diminishing progressively to such a degree, that on the 12th of September, I caused to be noted on the case-book, that there was very little albumen in the urine; when, twenty-four hours after, it reappeared in as great proportion as at first. This renewed appearance of albuminuria coincided with the development of peculiar nervous accidents of which I shall speak to you, and which manifested themselves the following day, the 14th. For three days the albuminous precipitate was very abundant. On the 17th September the urine gave no trace of it, but a slight shade reappeared on the 18th. On the 20th September the albuminuria stopped definitively.

However, from the 12th of August, (the disease was then nine days old, and the uvula was entirely freed,) there was no longer any false membrane on the left tonsil, and there remained only a few traces of it upon the right. On the 12th of August a phenomenon made its appearance, which seriously occupied our whole attention. This was a nasal tone of voice, which increased from day to day. On the 15th, on measuring the strength of the patient by means of the dynamometer of Dr. Burg, we found that the right hand gave a pressure of only 27 kilogrammes; the left, 22. Three days after, the paralysis of the veil of the palate had still further increased, and liquid food and drinks returned through the nose. On the 20th August, the young woman complained of general weakness and pricking, itching sensations in her feet; on the dynamometer she marked 23 kilos with the right hand, 20 with the left. On the 23d, the hands were benumbed, and, like the feet, they were the seat of pricking and itching sensations. The patient no longer walked, but tottered along. On the 25th, we perceived anæsthesia. We could prick the patient without her knowing it, and on applying the esthesimeter upon the dorsal surface of her left forearm, she felt the two points of the instrument only when they were at a distance of six centimetres from one another. When her arms were extended, her hands were agitated with constant tremblings. Not only were drinks swallowed with difficulty, but solid food itself traversed painfully the isthmus of the œsophagus. To use the patient's own words, morsels of food stuck in her throat. This dysphagia continued to increase for several days. On the 31st of August new accidents made their appearance. When the unfortunate young woman breathed, we heard in the inspiration a slight hissing sound, analogous to that which is produced in individuals affected with what is called œdema of the glottis. From the previous day, she labored under considerable dyspnœa, and we counted 54 inspirations per minute. On percussion and auscultation, we could find no signs of thoracic affection. On the 2d September, the paralysis had invaded the lips and the tongue. The patient felt the numbness and the pricking sensations there, and had great difficulty in articulating words. The difficulty in talking augmented in like manner as the dyspnœa. The gums were insensible, and the teeth no longer felt the food which they chewed. Thereupon I had recourse to electrization, which I caused to be applied on the anterior and lateral portions of the neck, and at the summit of the epigastric region; suspecting that the diaphragm was involved in this dyspnœa, and that, like other muscles, it was affected with paralysis. On the fifth day of this treatment the patient said that she swallowed and breathed better. But she was far from having done with these accidents. In fine, on the 11th of September difficulties of vision supervened. Her sight was affected, and the young woman could no longer read; the letters appeared to her blurred. The difficulty of pronunciation was still more marked; her hands continued to be numb; her feet were so no longer.

At this period, I would remind you, the albumen, the proportion of which in the urine had diminished, reappeared in greater quantity; at this period, also, that is to say, on the 14th of September, the patient was seized during the visit with the nervous accidents to which I just now made allusion; she complained of feeling, since morning, trembling in her hands. We had just left her bed, when suddenly we saw her agitated by violent convulsive movements in both arms, the eyelids, and the muscles of the eye, the balls of which were turned upward. These convulsions lasted more than an hour, intelligence, meanwhile, remaining perfectly clear; never before had the young woman had any nervous attacks. I prescribed a potion of melissa water, 80 grammes, syrup of ether 40 grammes, musk one gramme, and the following day she was quiet. During the night of the 15th the convulsive accidents manifested themselves anew, this time attacking the muscles of the face and those of the jaw. At the time of the visit, we perceived considerable dyspnœa and great difficulty in the articulation of sounds; the dysphagia was, however, continually decreasing. The left leg, much more feeble than the right, bent under the weight of the body. The superior extremities continued to be the seat of pricking and itching sensations, but still retained their strength. On the 22d of September weakness had invaded both legs, and rendered walking not only, but even an erect posture, impossible; in addition, the stools were painful. This weakness, and the numbness which accompanied it, presented variations in their intensity. Thus, while, on the 22d, the patient had no consciousness of the existence of her toes, on the following day she no longer experienced that disagreeable sensation of which she complained the day before. This weakness in the legs really continued to increase, however, and on the 26th September the paraplegia was complete; there was, in addition, vesical tenesmus, then difficulty in urinating, and veritable paralysis of the bladder; dyspnœa, trouble in swallowing, hesitation in speech, had gradually diminished, and you have seen, gentlemen, that to-day the patient breathes, swallows, and talks easily. Electrization was continued, and was successively applied to all the parts successively affected. Since the 1st of October the numbness in the limbs has diminished, and her strength has gradually returned; on the 7th the patient was able to raise herself without aid, and to sit on the side of her bed, although, as yet, it was impossible for her to walk; on the 11th she began to take a few steps; uncertain steps, it is true, and when she walks she does not feel the ground on which her feet rest.

In this case, gentlemen, it would have been difficult to mistake the relation existing between the paralytic accidents which we had seen developing themselves before our eyes, and the diphtheria, by which the patient was still affected, where they manifested themselves. If these things had always presented themselves as clearly to the observation of physicians, it is probable that this affection would not have remained unnoticed; for assuredly, diphtheritic paralysis is not a new disease, as some have believed.

It is the same, indeed, with this affection as with many others. Albuminuria, for example, which we have known only for a few years past, is a disease which now-a-days is met with frequently. I might say the same of leucocythemia; the example is indeed still more striking, for this affection was totally ignored until latterly, and now there is not a hospital in which some cases of it may not be observed. It is not because albuminuria and leucocythemia are new affections; it is not even because they are now more frequent than they were formerly; but because, since the investigations of Bright into the former, and those of Bennett, Virchow, E. Vidal, and Magnus Huss into the latter, the alarm has been given, and because now they are recognized, while formerly they were passed by unnoticed. Well, gentlemen, so it is with diphtheritic paralysis; and as generally it does not make its appearance until some time after the characteristic local manifestations of the pellicular disease, we can understand why we may not always have grasped the origin and the cause of it.

When we consult the memorials which history has left us concerning the Egyptian disease—and these memorials are very ancient, since they go back as far as Aretus—we find but few traces of diphtheritic paralysis. Some mention, it is true, excessive weakness, the extreme debility which follows in the train of the disease, but there is no mention, propérly speaking, of paralysis. However, its existence is categorically pointed out by three authors of the middle and end of the last century, Ghisi, Chomel, and Samuel Bard, and all three have completely established its correlation with diphtheria.

The case which Ghisi reports in his twelfth medical letter upon the epidemic angina of Cremona, in 1747 and 1748, is that of his own son, scarcely eight years of age. He concludes his remarks thus: "Leaving," he says, "to the patience and skill of M. Ch. Scotti, surgeon, the cure of the large ulcers seated in the two tonsils, a portion of the veil of the palate and the uvula, I also intrusted to him the treatment of a large and painful tumor, which at the very time when the interior of the throat had almost healed up, began to appear externally, and discharged a little below the angle of the jaw, under the mastoid muscle. We left to nature the cure of the strange effects of this disease, effects which were remarked among many of those who had already recovered their health, and which continued about a month after the healing of the angina and the abscess, the child continuing to talk through his nose, and his food, principally that which was least solid, instead of following the course of the œsophagus, often returned through his nostrils." About the same period, in 1748, a French physician, Chomel, observed in two patients paralysis consequent upon gangrenous sore throat. In one of these cases reference is alone made to the paralysis of the veil of the palate, which also Ghisi had pointed out. "The patient," says Chomel, "did not begin to be really free from the affair until the forty-fifth day of the disease, continually having difficulty in expressing himself, talking through the nose, and having an elongated uvula." But in the second case there were also other accidents; independently of the paralysis of the veil of the palate, "the patient became squint-eyed and deformed; on recovering her strength, she resumed from day to day her natural condition."

Samuel Bard, who has written an account of the epidemic sore throat which prevailed in 1771 in the City and Province of New York, relates the case of a little girl, two years and a half old, who recovered from a suffocating angina and cutaneous diphtheria consequent upon an application of blisters, but who continued to suffer from paralysis of the veil of the palate and weakness of the legs. "The larynx retained a peculiar sensitiveness in respect to liquids; to such a degree, that at the very moment when the little patient attempted to drink, she would fall into a violent attack of coughing, although she could swallow solid food without difficulty. These symptoms even disappeared, with the exception of the weakness and aphonia, which lasted for a much longer time; so that, in the second month, she could scarcely walk alone, or raise her voice above a whisper."

These facts remained unnoticed, and M. Bretonneau himself, who, in his *Treatise on Diphtheria*, had given a translation of the letter of Ghisi, and the memoir of Samuel Bard, had passed them by without dwelling on them. For at that time the attention of my illustrious master had not been aroused upon the subject; in the epidemic which he had just examined into he had not observed any instances of diphtheritic paralysis, and at this present time even he does not remember ever having met with any before 1843. The first patient whom he saw attacked by it was a surgeon of the Hospital at Tours, Dr. Herpin. M. Bretonneau, to whom he related his case, transcribed it literally in a *Memoir on the Means of Preventing the Development and Progress of Diphtheria*, published in the *Archives de Médecine*, (January and September, 1855.) From that time, indeed, paralysis, consequent upon diphtheria, was a fact well understood by the physicians of the school of Tours; but at Paris there was scarcely any mention made of it; or, at least, even though for a long time its existence had been known, no one had grasped the relations of cause and effect between the accidents observed and the disease which had produced them.

Eight years ago I and others also had already been struck with the fact, that paralysis of the veil of the palate frequently occurred in individuals who had had diphtheritic angina. These patients had the nasal tone of voice and great difficulty in swallowing, and this happened to adults as well as to children. I endeavored to explain to myself what took place in these cases, and I imagined that this paralysis depended upon a peculiar modification impressed by the membranous inflammation upon the palatine veil; a modification by virtue of which the muscular fibre which enters into its composition lost for a certain time its normal power of contraction. This was the explanation given by my friend Dr. Lasègue and myself in an article published on this subject in the number of the *Union Médicale* for the 9th of October, 1851. Here, in truth, paralysis of the veil of the palate was alone under consideration, and our explanation was up to a certain point acceptable, for we could compare what happens in diphtheritic angina with what sometimes happens in anginæ purely inflammatory, to which also we see this paralysis succeed; and in a more general way, we could compare it with what happens to every muscular apparatus when it has been during a greater or less time the seat of rheumatismal or pure inflammation. However, even though, anterior to this epoch, I had seen other facts concerning diphtheritic paralysis, either general or partial, affecting the eyes, the tongue, still I had seen them without being able to explain their nature, without having grasped the relation between the disturbances of innervation and the malady upon which they depended. Thus, in 1833, a remarkable example was brought under my notice at the time when I directed this clinic, as a substitute for Recamier. This case has been carefully reported by my friend, Dr. Thirial.

The case in question was that of a young woman twenty-two years old, who entered Hôtel Dieu on the 13th of June. Her limbs, both upper and lower, were affected with almost complete paralysis; the right arm could with difficulty be extended slightly; the fingers were drawn in and bent together in the palm of the hand, and when an effort was made to extend them, a slight degree of pain was occasioned. Paralysis of the left upper limb was less extensive and less complete; the patient could cause the arm to execute a few movements of adduction; moreover, she could still bend the forearm upon the arm, and produce a few feeble movements of pronation and supination. At the same time, the fingers of the left hand were permanently closed like those of the right hand. The inferior right limb was entirely incapable of motion, and the condition of the inferior left limb was about the same, except that the patient could slightly bend the limb, thanks to the active force still left in the knee-pan.

There was some difficulty in the emission of urine and fæcal matter.

In spite of the almost general loss of mobility of both sides of the body, the sensibility of the paralyzed limbs remained entirely unaffected. These parts were somewhat colder than in their normal condition, but they readily perceived the touch of the hand as well as differences of temperature. The senses and the intelligence preserved all their integrity. Utterance was unobstructed, and the patient answered our questions with remarkable correctness and precision. The pulse was normal, appetite slight, but digestion was good.

This young woman, who lived in a village of the department de la Haute Marne, whence she had come to Paris to be treated, informed us that she was delivered the 14th of February; consequently, four months before. Her delivery had been perfectly natural, but about fifteen days after, she had been seized with angina, qualified as membranous angina, which had made her very sick, and subjected her to great danger. The physician of the village, who had attended upon her, combated the disease at first with bleeding, then with sixty leeches applied several times, and afterwards added to this treatment blisters to the calves of the legs, without making any mention whatever of any topical remedy. The patient told us, in addition, that the surface of the blisters was covered with false membranes; and this fact, as M. Thirial remarked, left no doubt whatever concerning the nature of this angina, and its grave and infectious character.

In spite of the insufficiency, I will add, in spite of the absurdity of this treatment, the patient had the good fortune to recover, but it was not until a long time after that she became convalescent. She informed us, indeed, that she did not begin to sit up until about the 10th of April, that is to say, more than six weeks after the commencement of the diphtheria.

The first time that she attempted to stand erect and to walk, she noticed that there was some difficulty with the right leg, and she added that she could not support herself and take a few steps without the aid of a cane. The physician to whom she complained of these accidents paid but little attention to them, charging them to her weakness, the natural consequence of so long a sickness. I may say here, it is probable that this mistake has been committed by many others before attention had been aroused concerning the paralysis of which we are speaking. In the case of this woman, a few days after having complained to her physician of her symptoms, the disagreeable sensations of pricking and itching supervened in her weak leg, and the difficulty of moving about increased in a very marked degree. In short, at the end of fifteen days, paralysis of the inferior right limb was complete, and the left arm was affected in its turn. After a certain time, the same pricking and itching sensation manifested itself throughout the whole of the left side of the body; soon the motive power grew weaker and weaker simultaneously in the upper and lower limb. Towards the end of May the patient could no longer support herself on her legs, even with the aid of a cane, and from that time she was obliged to keep her bed. At the end of another fortnight, as her condition did not change, her family decided to come to Paris, to have her treated here, and she entered Hôtel Dieu in the state which I have just now described to you.

Assuredly, gentlemen, that was a sufficiently clearly marked case, and it seems to me, to-day, that no one should have mistaken it; and yet, among all the propositions successively suggested by the numerous physicians who were in attendance on the clinic, both concerning the nature and the seat of the disease, the real diagnosis escaped us all, as well during the whole time that we hadthe patient under our care, as after her cure, which was complete two months after the arrival of the poor young woman in our wards, and three months after the commencement of the paralytic accident. I repeat, that no one grasped the relation existing between these accidents and the diphtheria by which the patient had been affected.

As for me, I did not think of it; nor did I any the more think of it in the case of analogous facts which at a later period I happened to meet with.

In 1846, I was sent for by my honorable confrère, Dr. Vosseur, to see the child of a joiner living in the quarter Saint Jacques, in the Allée des Feuillautines. This child had paralysis of the veil of the palate; but she had, in addition, strabismus, and complete paraplegia, which made it absolutely impossible for her to walk. Dr. Vosseur told me that, two months before, this little girl had had a very severe diphtheritic angina, to which he had opposed cauterization with nitrate of silver, mercurial preparations given internally, and employed by way of frictions externally, and still other medication.

Two years after, in 1848, a physician of the quarter Saint Victor, Doctor De Wulf, called me to the family of a merchant in the Rue Saint Honoré, whose three children had been attacked with pharyngeal diphtheria, which had seized one after the other. Dr. De Wulf had treated them vigorously; calomel internally, and insufflations of alum upon the parts affected, had been employed to combat the angina, and during convalesence tonics had been administered. The little patients were cured of the diphtheria; one, however, a little girl five or six years old, whom her grand-parents had taken home with them, presented certain accidents, in respect to which, three weeks after, my confrère did me the honor to ask my opinion. I found paralysis of the tongue and of the veil of the palate, which hindered deglutition; there was also strabismus; and in addition, an arm and a leg were completely paralyzed. I thought at first there was hemiplegia, resulting from a tuberculous lesion of the brain. Fifteen days after, the child died; the paralysis had extended to the entire body.

These facts, like the first, remained then a dead letter to me. I was acquainted, however, with the observation of Dr. Heppin, of Tours. M. Bretonneau had related it to me, and had said, "It is diphtheritic paralysis." Unheard-of things! I obstinately persisted in seeing in it only a coincidence; and when M. Lasègue and I published, in 1851, our article on paralysis of the veil of the palate, I was satisfied with the explanation which I gave of those local paralyses. I did not see that they were the same in nature as the paralyses of the limbs, of the sight, etc. It was not until towards 1852 that, enlightened by new facts, better studied and better interpreted, I began to understand diphtheritic paralysis as M. Bretonneau himself understood it. From that time, whenever occasion offered, I called, in my turn, the attention of my colleagues to this important subject, and in this very place I mentioned, as early as 1852, some observations which I will recall to you to-day.

In 1852, I saw at No. 11 Rue Caumartine, with my friends, MM. Beylard, Oliffe, and Bigelow, an American lady attacked with a frightful diphtheria, which, invading the pharynx, the nasal fossæ, the internal surface of the eyelids, kept the patient for three weeks between life and death. This young lady recovered; but in the course of the disease, she had fallen into an unimaginable condition of helplessness. Before the attack, being in all the brilliancy of health, and having a remarkable freshness of color, she became, after the third day of her membranous angina, pale as the most severely chlorotic woman, and a general swelling was added to the discoloration of the integuments. I knew nothing at this period of the existence of albuminuria in diphtheria, and I neglected the examination of the urine. In spite of the severity of these phenomena, I repeat, the patient recovered; that is to say, the pseudo-membranous affections yielded and completely disappeared; but we soon had to struggle against other morbid troubles of the most serious nature. At first there was paralysis of the veil of the palate and of the pharynx, which almost absolutely prevented the act of deglutition; as soon as the young girl attempted to take anything liquid whatever, she immediately rejected it through the nose. It became necessary, during a certain time, to give her only thick food, and to nourish her with well-boiled chocolate, and with thick soup; and even then we were obliged to close her nose, so that the column of air contained in the nasal fossæ, opposing an obstacle to the return of the alimentary substances, might perform the office of the veil of the palate. This device succeeded.

To this paralysis of the veil of the palate, which was also characterized by the nasal tone of voice, there was added paralysis of the apparatus of vision. The patient became amblyopic, and afterwards completely amaurotic. Her arms were attacked, and loss of motive power was complicated with loss of sensibility; the inferior extremities were, in their turn, affected with paralysis. Six weeks after her recovery from the membranous affection, the paralysis was so general, that the poor young girl was condemned to remain in bed, without the power to move from it. Four months passed before she could leave it and walk about her room, supported by two persons; before she could carry a spoon to her mouth and feed herself. Her cure was not complete till the end of a year. At the present time her health is excellent.

I related this case to my friend M. Blache, and to several of my colleagues in the hospitals; it awakened their remembrances, and they called to mind a certain number of other cases which they had up to that time passed by unnoticed. Some time after that Dr. Faure called me to see one of his patients, a little girl four or five years old, who was just recovering from a diphtheritic affection. She had general paralysis, completely analogous to that of the young American; with this difference, however, that there was a sort of alternation in the accidents; the symptoms of paralysis manifesting themselves sometimes in an arm, sometimes in a leg. At the same time that he asked my advice, M. Faure published this interesting case in the *Union Médicale.* This case was about five or six years ago. The patient recovered quite rapidly.

In 1858, I was called in consultation to see a broker, by Dr. Arnal, who told me that his patient, after having been attacked by paralysis of the veil of the palate, had had remarkable weakness of vision, and afterwards paraplegia and paralysis of the superior limbs; the muscles of the neck were also affected, and had become powerless to support the head in its natural position; finally, there was anaphrodesia. While listening to the patient as he was giving me the information which I asked for, I remarked his nasal tone of voice, and all the paralytic symptoms, which I observed immediately, made me think that these accidents were the results of an antecedent diphtheria, which was the case.

Now that, since the publication in the *Archives* of the memoir of M. Bretonneau, it is, so to speak, the order of the day, diphtheritic paralysis has been treated of in several theses, especially in that of Dr. Pératé in 1858; and in 1859, Dr. Péry made it specially the subject of his inaugural dissertation. But the most extended work which has yet appeared on this subject is that which Dr. Maingault presented to the Medical Society of the Hospitals. This author having devoted himself to the examination of facts relative to this affection, has succeeded in collecting more than fifty cases of it, six of which he himself saw, and this collection of cases served as the basis of the memoir which he has just published.

For some time past, these cases seem to multiply considerably in the hospitals, especially in the hospitals for children, both in the City of Paris, and at different points in France. Reports concerning epidemics of membranous angina which have prevailed in the departments point out, in fact, the existence of this affection. I have shown to you in our wards, for some months past, several patients who have been attacked by it, and my clinical assistant, Dr. Moyuin, has reported a number of cases of it in the *Compte Rendu*, published by the *Gazette des Hôpitaux*, (numbers of the 15th and 22d November, and 1st December, 1859.) This abundance of cases, at present observable, results doubtless from the fact that, attention being anxiously awakened concerning them, no one allows them to pass unnoticed; but, in addition, these cases are in reality of late much more common; this is probably because, for several years past, diphtheria has assumed that peculiar physiognomy which it had not formerly, and which is characterized by its toxical form. The fact is constant, however, that there is not a physician at present who has not heard about diphtheritic paralysis. I will now endeavor to sketch for you its principal features.

Diphtheritic paralysis is presented under *two distinct forms: one severe*, but very rare, thanks be to God, in which those attacked die in the midst of adynamic or ataxic accidents; *the other mild*, generally terminating in cure; or if sometimes death occurs, it happens through an accident, resulting, it is true, from paralysis, but produced, so to speak, in a mechanical manner; the patient dying, for example, from strangulation by a morsel of food being lodged in the bronchii, as in the case lately cited by my colleague and friend M. Tardieu.

In the mild form, diphtheritic paralysis assumes the characteristics which I will point out to you.

Sometimes towards the end of a membranous angina from which the patient has not yet recovered, as happened to our female patient of No. 9 ward St. Bernard, but most frequently, we may say, after the disappearance of the false membranes, eight, twelve, fifteen days, and even a month after the apparent cure of pharyngeal diphtheria, there supervenes *a paralysis of the velum palati*. It is manifested by the nasal tone of voice, which we are tempted to attribute to a destruction, or at least to a considerable swelling of the palatine veil; the speech is slow; the articulation of sounds difficult. At the same time there is difficulty in deglutition; partly rejected through the nose, drinks are always much less readily swallowed than solid food; but when paralysis affects not only the veil of the palate, but also the muscles of the pharynx, the hinderance to deglutition becomes also more considerable, and morsels of food pass with difficulty, the smaller the volume the greater being the difficulty; and sometimes they may become involved in the air-passages, and bring about the accidents to which I have already made allusion, and which I shall have occasion to revert to hereafter. A peculiarity noticed by Dr. Maingault in a work anterior to that of which I have just now spoken, (*Of paralysis of the veil of the palate consequent upon angina*, Thesis, Paris, 1854,) and also pointed out by Dr. Duchenne, (of Boulogne,) is, that the patients can neither blow out a lighted candle, for example, nor puff out their cheeks, nor perform suction, nor gargle their throats. To explain to you, gentlemen, the mechanism of this difficulty of deglutition, and the different phenomena which I have just mentioned, would carry me beyond the limits of a clinical lecture; this mechanism has been discussed at length in the thesis of Dr. Maingault.

If we examine the pharynx of the patient, we perceive that the veil of the palate is pendent; that it closes the back part of the mouth like a half veil; that instead of rising and falling in frequent oscillations, as usual, when we depress the tongue rigorously with a spoon, it remains motionless, or nearly so. If we endeavor to excite it by pricking it with the point of a bistoury or the nib of a pen, it does not contract at all; its sensibility, usually so exquisite that the least titillation excites nausea, is completely blunted; we can prick it with impunity, cauterize it with chlorhydric acid and nitrate of silver, which we could not do before.

The veil of the palate is ordinarily the part first affected by diphtheritic paralysis; this is readily understood, for independently of the general cause which produces it, the local condition, the inflammation of which the pharynx, the tonsils, the uvula, and the palatine veil have been the seat, plays also its part in the manifestation of the local accidents. It is a well-known fact, indeed, as I have just now told you, that inflammation, in attacking a muscle, introduces into its vitality such a modification that the contractile power of the muscle is diminished, and even destroyed; consequently, taking into account only this element of inflammation, which, striking the veil of the palate, modifies the vitality of the muscular fibres which enter into its texture, the explanation that I gave in 1851 of this paralysis was correct, but I had considered only one side of the question. Later observations taught me that this element of inflammation played but a secondary part, while indeed it singularly predisposed the muscular apparatus which it affected to suffer the effects of the general cause, under the influence of which the paralysis is produced, which we shall see manifesting itself in other parts of the body. The principal part is so completely played by this general cause of which we are speaking, that in some cases, and those cases are not rare, paralysis of the veil of the palate does not supervene, as I have just now said, until a certain period, and sometimes a long time, after recovery from the angina, when the inflammation has completely passed away, and could not, consequently, be deemed the cause of it.

Not only is the veil of the palate generally the part first affected by diphtheritic paralysis, but I have often seen it exclusively confined to this part. Under other circumstances this paralysis is general at the outset; and then, either, on the one hand, it has affected simultaneously the veil of the palate, the limbs, and the other organs; or, on the other hand, paralysis of the veil of the palate has preceded by a few days only the accidents which we are now about to consider; or finally, indeed, but this is observed much more rarely, the first has entirely, or almost entirely, yielded when the second appears.

These accidents are manifested as well after cutaneous diphtheria as after membranous angina, according to the cases observed by my colleagues and friends, Doctors Barthez and N. Gueneau de Mussy; they commence, ordinarily, with the extremities.

The patients complain of numbness, of pricking and itching sensations, which extend from the fingers along the limbs. This pricking, tingling sensation is never more marked than at the moment when the individuals make a muscular effort; it is accompanied by a sensation of cold in the feet and hands, and a feeling of heaviness in the legs; sensitiveness to the touch is obtuse, and anæsthesia sometimes becomes complete; patients can be pricked and pinched with impunity, without their feeling any pain. This anæsthesia may extend to the entire surface of the skin, but most usually anæsthesia and analgesia affect only certain points of the body, precisely as is observed in hysterical paralysis. Generally, the lower extremities are first affected by it, and, in some cases, the patients do not feel the ground under their feet, or they feel it only imperfectly; it seems to them, they say, as if they were walking on cotton, or on very thick woolen carpet. There are some who can walk only on condition that they have their eyes open, for fear of falling. There are also, gentlemen, phenomena which are observed in other sorts of paralysis. When the hands are attacked by it, the patients lose all consciousness of what they hold, and find it impossible to lay hold of objects of small size, such as pins and needles. This paralysis of sensibility begins most usually, I repeat, with the lower extremities, and from them becomes general; but some cases have been noticed in which the upper extremities alone have been affected; in other cases, entirely exceptional, however, there has been hyperæsthesia.

At the same time that these difficulties of sensibility appear, there also appears *paralysis of motion*, which presents different degrees. It may betray itself solely in the weakness which the patients feel, especially when they attempt to walk somewhat rapidly, to ascend or descend a staircase. But these symptoms are not generally thus limited; the weakness increases progressively; walking becomes more and more difficult; finally, an erect posture becomes impossible; the patients are compelled to remain in bed, and the paralysis may be such that they cannot raise their legs. By the aid of the dynamometer, up to a certain point, we can obtain the measure of the weakness of the upper extremities. You have seen, gentlemen, that in vigorous persons who in the ordinary state of health should give from 50 to 55 kilogrammes of pressure on the dynamometer of Dr. Burg, we could obtain only 20, and indeed, in some cases, only 12 to 10 kilogrammes. This diminution of motive power still progressing, the patients can no longer stretch out their arms except with difficulty; and if the paralysis still increases, they become deprived of the use of their hands, and are obliged to be fed.

In like manner, as the difficulties of sensibility, so the hinderances of motive power generally begin with the lower extremities, to which they are sometimes confined; this is paraplegia. In the greatest number of cases, the superior extremities are seized in their turn, and the muscles of the trunk and of the neck may be affected. My friend, Dr. Faure, who first pointed out the fact, has described it perfectly. "The general aspect of the body" he says, in the article which he communicated to the journal *Union Médicale* of the 3d of Feb., 1857, "the general aspect of the body has profoundly changed; all the upper part of the trunk is pushed backward; the head, on the contrary, falls forward, and rolls on the breast; the natural muscular outlines of the neck and of the back disappear; whatever may be the efforts made to induce the patients to raise the head, they cannot succeed in doing so, and if the body is pushed backward, the head immediately falls like an inert mass." The intercostal muscles and the diaphragm are sometimes affected with this paralysis, and the considerable dyspnœa which in one patient of No. 9 Ward Saint Bernard for a moment so much frightened us, proceeded from no other cause. And in this patient also, for this unfortunate woman has afforded us a complete tableau of all the accidents which we are studying, you have seen the muscles of the face, the lips, and the tongue affected by it.

The attitude of the subjects in whom the muscles of the trunk are thus paralyzed, and the difficulty of speech, when the tongue and the lips are affected, give to the individuals the appearance of idiots; but when they are interrogated, the clearness of their replies shows the brightness of their intellect.

(To be continued.)

EDITORIAL AND MISCELLANEOUS.

The Editor of the Monthly having been appointed Associate Commissioner and Inspector on the Sanitary Commission, and thereupon compelled to leave the city rather suddenly, the undersigned was, somewhat unexpectedly, called temporarily to occupy the Editorial Chair. On making his saluting bow, he feels that an apology is due to the patrons of the Monthly for the late appearance of this number. The delay was, however, under the circumstances, unavoidable. Elsberg.

Our Medical Officers in the Battle of Bull Run, July 21, 1861.

Medical Director—W. S. King; Assistant—David L. Magruder.

FIRST DIVISION.

First Brigade.—*First Regiment Connecticut Volunteers.* Surgeon, C. P. Stearns; Surgeon's Mate, Frederick Dibble. *Second Regiment Connecticut Volunteers.* Surgeon, A. T. Douglas, M.D., of New London; Surgeon's Mate, Francis Bacon, of New Haven. *Third Regiment Connecticut Volunteers.* Surgeon, John McGregor, of Thompson; Assistant Surgeon, Matthew T. Newton, of Suffield. *Second Regiment Maine Volunteers.* Surgeon, William H. Allen, of Orono; Surgeon's Mate, A. C. Hamlin, of Bangor; *Second Regiment New York State Militia.* Surgeon, Dr. A. Powell; Assistant Surgeon, S. E. Ferguson.

Third Brigade.—*Sixty-Ninth Regiment New York State Militia.* Surgeon, Dr. Kiernan. *Seventy-Ninth Regiment New York State Militia.* Surgeon, James Norval, M.D. *Thirteenth Regiment New*

York Volunteers. Surgeon, Dr. Little; Assistant Surgeon, Dr. Avery. *Second Regiment Wisconsin Volunteers.* Surgeon, J. M. Lewis

FOURTH BRIGADE.—*Second Regiment Michigan Volunteers.* Surgeon, Alonzo B. Palmer; Assistant Surgeon, Nathan Webb. *Third Regiment Michigan Volunteers.* Surgeon, D. W. Bliss; Assistant Surgeon, Z. E. Bliss. *Twelfth Regiment New York Volunteers.* Surgeon, R. W. Pease; Assistant Surgeon, G. B. Todd. *First Regiment Massachusetts Volunteers.* Surgeon, Richard H. Salter, of Boston; Assistant Surgeon, Samuel A. Green, of Boston.

SECOND DIVISION.

FIRST BRIGADE.—*Eighth Regiment New York State Militia.* Surgeon, Dr. Dalton; Surgeon's Mate, T. R. Smith. *Fourteenth Regiment New York State Militia.* Surgeon, Captain J. M. Homeston; First Assistant Surgeon, Lieutenant J. L. Earley; Second Assistant Surgeon, F. Swalm. *Twenty-Seventh Regiment New York Volunteers.* Surgeon, Barnes; Assistant Surgeon, Morse.

SECOND BRIGADE.—*First Regiment Rhode Island Volunteers.* Surgeon, Francis L. Wheaton, Providence; Surgeon's Mate, Henry H. Rivers, Providence; Surgeon's Mate, George W. Carr, Providence. *Second Regiment Rhode Island Volunteers.* Surgeon, Francis L. Wheaton. *Seventy-First Regiment New York State Militia.* Surgeon, Dr. McMillan; Assistant Surgeon, Dr. Dodge; Second Assistant Surgeon, Dr. Peugnet. *Second Regiment New Hampshire Volunteers.* Surgeon, George H. Hubbard.

THIRD DIVISION.

FIRST BRIGADE.—*Fifth Regiment Massachusetts Volunteers.* Surgeon, J. W. Hurd; Assistant Surgeon, Wm. W. Keen, Jr., M.D., of Philadelphia. *First Regiment Minnesota Volunteers.* Surgeon, J. H. Stewart; First Assistant Surgeon, C. W. La Botelier.

SECOND BRIGADE.—*First Regiment Michigan Volunteers.* Surgeon, William Brodie; Assistant Surgeon, Cyrus Smith. *Fourth Regiment Michigan Volunteers.* Surgeon, Thomas Tunnicluff; Assistant Surgeon, D. P. Chamberlin. *Eleventh Regiment New York Volunteers.* Surgeon, C. A. De Williers. *Thirty-Eighth Regiment New York Volunteers.* Surgeon, A. Berry; Assistant Surgeon, Stephen Griswold.

THIRD BRIGADE.—*Third Regiment Maine Volunteers.* Surgeon, Gideon S. Palmer, of Gardiner. *Fourth Regiment Maine Volunteers.* Surgeon, William A. Banks, Rockland; Assistant Surgeon, Elisha Hopkins, Jr., Searsport. *Fifth Regiment Maine Volunteers.* Surgeon, Buxton, of Warren; Assistant Surgeon, F. G. Warren, of Biddeford.

Second Regiment Vermont Volunteers. Surgeon, Newton H. Ballou, Burlington; Assistant Surgeon, Walter B. Carpenter, Burlington.

FIFTH DIVISION.

First Brigade.—*Eighth Regiment New York Volunteers.* Surgeon, Dr. Rudolph Welcker; Assistant Surgeon, Francis Staekly. *Twenty-Ninth Regiment New York Volunteers.* Surgeon, Dr. C. Neuhaus; Assistant Surgeon, C. H. Osborne. *Garibaldi Guard, of New York.* Surgeon, A. Mager. *Twenty-Seventh Regiment Pennsylvania Volunteers.* Surgeon, P. Heller; Assistant Surgeon, M. Heller.

Second Brigade.—*Sixteenth Regiment New York Volunteers.* Surgeon, W. H. Crandall; Assistant Surgeon, John H. Moore. *Thirty-First Regiment New York Volunteers.* Surgeon, Dr. Frank H. Hamilton; Assistant Surgeon, Dr. Lucien Damainville. *Eighteenth Regiment New York Volunteers.* Surgeon, W. Van Ingan; Assistant Surgeon, Edmonson. *Seventeenth Regiment New York Volunteers.* Surgeon, J. C. Stewart; Assistant Surgeon, A. B. Shipman. *Thirty-Second Regiment New York Volunteers.* Surgeon, William B. Little; Assistant Surgeon, G. T. Totten.

Their Fate—*Wounded.*—Surgeon N. S. Barnes, of the 27th Regiment N. Y. Volunteers, contused wound of the knee.

Prisoners.—Surgeon B. F. Buckstone, 5th Maine Regiment; Dr. Norvell, 79th N. Y. M.; Dr. J. M. Lewis, 2nd Wisconsin; Surgeon W. H. Allen, 2d Maine Regiment; Surgeon A. A. C. Williams, 1st Maine Regiment; Surgeon A. Powell, 2d N. Y. Volunteers; Surgeon Foster Swift, and Assistants Surgeons G. S. Winston and Charles De Graw, 8th N. Y. State Militia; Dr. Edward T. Taylor, 1st N. J. Volunteers; Dr. Stephen Griswold, 8th N. Y. Volunteers; Dr. Eugene Peugnet, 71st N. Y. Volunteers; Dr. S. E. Ferguson, 2nd N. Y. S. M.; Dr. Stewart, 1st Minnesota; Dr. Harris, Drs. J. M. Homeston and F. Swalm, 14th N. Y. Militia; Assistant Surgeons Steinberg and Grey, of the Regular Army. They were captured, most of them, while attending to the sick in the hospital, near the battle-ground. Dr. Steinberg has since escaped, and many of the others have been released on parole.

Obituary Record.

Died, in London, June 13th, 1861, of confluent small-pox, Henry Gray, F.R.S., at the early age of 36. Mr. Gray was the Lecturer of Anatomy at St. George's Hospital. He is well known in this country through his valuable "Descriptive and Surgical Anatomy," and through his prize dissertation "On the Structure and Use of the Spleen." In his death our science has sustained a severe loss.

—— on the 11th of June, BENJAMIN PHILLIPS, F.R.C.S., F.R.S., &c., aged 56, formerly Surgeon and Lecturer on Surgery at the Westminster Hospital. He was the author of a valuable work on scrofula, a treatise on fractures, which obtained the Jacksonian Prize, a treatise on strictures of the urethra, of several valuable papers published in the Transactions of the Royal Medical and Chirurgical Society, &c.

—— on the 19th of July, suddenly, FRANCIS RYND, an eminent young surgeon of Dublin, of fatty degeneration of the heart, under circumstances of excitement.

—— recently, at Weimar, of apoplexy, Dr. ROBERT FRORIEP, well known as professor at Jena and Berlin, and as a large contributor to periodical literature. Our readers will remember the notice of his "Notizen aus dem Gebiete der Natur—und Heilkunde," in a former number of the MONTHLY.

New York Medical College and Charity Hospital, No. 90 *East Thirteenth Street, near Fourth Avenue.*—Dr. E. Noeggerath has been appointed to the Chair of Clinical Midwifery and Diseases of Females, in this institution.

A Chair of Ophthalmia and Aural Surgery (the first, we believe, ever created in this country,) has been instituted, and Dr. W. F. Holcomb appointed to the same.

The Fall Course of Lectures will commence on Monday, September 16th, and continue until the commencement of the regular term in October. This Course will be *gratis* to students of the College who intend taking a full Winter Course, and will be as follows:

On Amputations, by Prof. Carnochan.

On Diseases of the Genito-Urinary Organs, by Prof. Raphael.

On the Anatomy of the Female Pelvis and Fœtal Head, by Prof. C. A. Budd.

On Infantile Fevers, by Prof. Jacobi.

On the Diagnosis of Uterine Diseases, by Prof. Noeggerath.

On the Use of the Ophthalmoscope, by Prof. Holcomb.

Clinical Instruction forms a prominent feature in this School, and is conducted as follows:

Mondays, Surgical, Prof. Raphael.

Tuesdays, Diseases of Children, Prof. Jacobi.

Wednesdays, Diseases of Women, Profs. Noeggerath and Budd.

Thursdays, Surgical, Prof. Carnochan.

Fridays, Diseases of Children, Prof. Jacobi.

Saturdays, Medical.

Prof. B. J. Raphael, No. 124 Ninth Street, is the Acting Dean.

THE AMERICAN

MEDICAL MONTHLY.

SEPTEMBER, 1861.

ESSAYS, MONOGRAPHS, AND CASES.

A Lecture on Prolapse of the Funis; the Seventh of a Course on the Complications and Sequelæ of Labor, delivered in the University Medical College, New York. By T. Gaillard Thomas, M.D., Lecturer on Obstetrics.

You are aware, gentlemen, that the only connection existing between the fœtus in utero and its mother is that established by means of the canal, or collection of canals, consisting of two arteries and a vein, which, surrounded by a mass of gelatinous material and an envelope of the amnion, receives the name of the funis umbilicalis, navel-string, or umbilical cord.

This afferent and efferent cord is therefore of great importance to the life of the child, and may well be likened, in importance and functions, to the larynx of the extra-uterine mammalian. The larynx of the latter conveys to the carbonized blood of the system oxygen, which purifies it; and of so much importance is it to the functions of life, that two or three minutes' interference with its calibre will generally terminate them. In addition to conveying oxygen to the poisoned blood of the fœtus, the umbilical cord likewise carries elements of nutrition; and although death does not as suddenly and surely follow its compression as it does that of the larynx, we may safely say that if this, the sole medium of communication between child and mother, be entirely obstructed, a cessation of the vital functions will very soon occur.

Fortunately, the funis is, in the vast majority of cases, coiled around the limbs or neck of the child, or is conveniently packed away in some of the nooks created by the inequalities of the child's body, and is thus kept safe from undue pressure during the act of parturition. Sometimes, however, on account of certain unfortunate conditions, it falls into the vagina before the presenting part of the child has entered and plugged up the passage; and being thus exposed to serious compression, as labor advances, the danger to the child is imminent. This accident it is which has been styled prolapse of the funis, or, less appropriately, funis presentation.

Cause of Death.—It is really very astonishing to see how rapidly the mammalian being is destroyed, by arrest of supply of oxygen to the lungs! Deprive a powerful man of oxygen for three minutes and he will almost surely die; and although in a less degree, this is equally true of the fœtus in utero. Now what destroys life in both these cases? The heart is secondary in its action to the lungs, and these are, in the performance of their functions, under the influence of the medulla spinalis. It was Sir Benjamin Brodie, I think, who, to prove the first of these statements, tied the large vessels of a rabbit's neck, cut off the head, and by keeping up artificial respiration through the larynx, caused the heart to beat regularly and distinctly. The medulla spinalis is peculiarly sensitive to the action of carbonized blood, and if that kind of fluid supply it for only a very few minutes, it ceases to function, respiration stops, and the heart quickly becomes still. Should this alarming state be temporary, it is called asphyxia; should it be permanent, it is death. Thus it is that compression of this little canal, in the case we are studying, bereaves the child of life.

Mortality.—As far as the life of the child is concerned, there are few complications more dangerous than this, and certainly there is none which to the obstetrician brings more mortification and annoyance. Should convulsions or rupture of the uterus, with their very evident and terrible dangers, destroy the child, all can see and appreciate how such a result should naturally have occurred. But not so when an apparently insignificant part, which can readily be returned to the uterus, has been displaced; many a time will the practitioner doubt, lest he may have been wanting in mechanical ingenuity or activity of interference, and still more often will the bereaved parents and friends do so. The mortality of this accident is truly appalling.

Of 355 cases of prolapse collected by Dr. Churchill, 220 children, considerably over one-half, were lost, and many of them after the mother's safety had been jeopardized by version or the application of the forceps. In 107 of these cases version (a most dangerous operation) was performed, and in 37 the forceps were applied.

The following table will place this more clearly before you:

AUTHORS.	Cases of Prolapse.	Children Lost.	Delivered by Version.	Delivered by Forceps.
Mr. Giffard	21	17	15	5
Dr. Smellie...........	6	2	5	—
Mr. Perfect	4	3	4	—
Dr. Joseph Clarke....	66	49	—	—
Dr. Merriman	8	4	—	—
Dr. Ramsbotham.....	1	1	1	—
Dr. Collins...........	97	70	—	—
Dr. Cusack	5	5	—	—
Mr. Gregory	7	4	—	—
Dr. Beatty...........	6	4	—	—
Mr. Lever	6	2	—	—
Dr. Churchill.........	7	5	—	—
Mme. Boivin	38	9	25	13
Mme. Lachapelle.....	26	7	10	13
Dr. Voigtel	1	—	1	—
Dr. Jansen...........	86	38	46	6

In the work of Drs. McClintock and Hardy on obstetrics, 37 cases of prolapse of the funis are reported, in which 25 children were lost.

As regards the comparative mortality of the accident, I know of nothing which will convey a better idea than a survey of the causes of fœtal death in the eastern district of the Royal Maternity Charity, London, between the years 1828 and 1850, as given by Dr. F. H. Ramsbotham:

Total number of still-born children	1822
Occurring with breech presentation............	253
" " transverse presentation.........	97
" " placental presentation..........	50
" " hæmorrhage..................	85
" " lingering labor................	62
" " prolapse of the funis	128

It will thus be seen that a larger mortality was due to this than to any other cause, except breech presentation.

We must not forget, however, in looking at these statistics, that in many cases the cord was pulseless before aid could be procured; as, for instance, in Dr. Collins' cases it was so in 22 of the 73 fatal cases reported by him, and in 11 of the 25 fatal cases reported by Drs. McClintock and Hardy.

Frequency.—With such a mortality, it is fortunate for the statistics of our art that this accident is not of frequent occurrence. To use the words of Velpeau, we may say that, "without being rare, prolapse of the funis is not very common," and we may have a definite idea concerning its comparative frequency by bearing in mind that it occurs a little oftener than transverse presentation. In the excellent statistical tables of Dr. Churchill, it is stated to have occurred 401 times in 98,512 cases, or about 1 in 245½. M. Schuré, of Strasbourg, states it as 1 in 265; and Michaelis, of Kiel, as one in 282.

Causes.—The natural state of the uterus and its contents gives all the conditions favorable for the occurrence of prolapse of the cord; and, indeed, when we refer to them our surprise is excited not at its occurring as often as has been stated, but at its not occurring much more frequently. In fact, the position of the uterus, the slippery nature of the cord, and the tendency of the liquor amnii to sudden escape, may almost be cited as predisposing causes, while the exciting causes may be enumerated in the order of their importance as follows:

a. Deformity of the pelvis.
b. Transverse presentation
c. Foot or breech presentation.
d. Rupture of the bag while patient is erect.
e. Attachment of placenta near the os.
f. Great length of cord.
g. Excess of liquor amnii.

The *modus causandi* of each of these is so evident, that I need scarcely do more than rapidly refer to it.

In deformed pelvis, the presenting part not filling the cavity, an unoccupied space is left, through which the cord readily slips; and when the child presents transversely, or by the buttocks or feet, a similar space exists, from the presenting part not filling the cavity of the normal pelvis. Should the membranes yield while the patient is walking or standing, it is evident that the sudden and rapid flow of the liquor amnii would tend to draw the cord downward; an explanation which likewise holds good in cases where that fluid is in excess.

Lastly, if the placenta be attached near the os, or the cord be very long, the presenting part of the child is very apt to sweep it before it in advancing into the pelvis.

Diagnosis.—In this accident, as in all others in obstetric practice, a speedy and certain diagnosis is of the first importance.

This may always be made in those cases occurring after the escape of the waters, but before that time it is by no means easy of accomplishment. The cord is recognized by its tortuous, slippery surface, and by its pulsation. There is nothing with which it could be confounded unless with some pulsating tumor, from which it can readily be distinguished by its movableness. When it is contained within the bag of waters, it gives to the finger, when tapped upon and thrown upward, the sensation simply of a solid substance of light weight *ballottéed* in a bag of water, and might readily be mistaken for a hand or foot.

Treatment.—We now approach the treatment of this dangerous complication, which resolves itself into two indications:

1st. We may return the prolapsed cord to the uterus, retain it there, and allow the labor to complete itself naturally.

2d. We may leave the cord in the evil position which it has assumed, and by operative procedure hurry the presenting part out of the vagina so speedily as not to endanger life by the temporary pressure which occurs to it.

The first of these indications looks to the uninitiated very easy of accomplishment; and indeed the simple return of the dislocated part is so, but the nature of the cord and of the position of the uterus are such as to make its retention next to impossible. No sooner is one part returned than another descends, and the entire prolapsion being carefully reduced, a uterine effort reproduces it in a still more exaggerated degree. This goes on until the defeated and discouraged practitioner despairs of success in this way, and resorts to the fulfillment of the second indication. Of course the insuccess is not invariable, but the mortality quoted from Dr. Churchill will prove how commonly it is so. To prevent this descent after the cord has been returned to the uterus, Osiander, Hopkins, and others have attached bits of sponge to the part before returning it, and good results have been reported of the practice. Ordinarily, the cord is simply pushed up by the fingers, and an endeavor (which, however, rarely succeeds,) is made to keep it above the head until the cavity of the pelvis is occupied by the latter. As the hand thus placed is apt to displace the presenting part, or difficulty occur in its introduction, instruments for replacing it have been invented, among which those of Dudan, Mme. Mercier and Duchamp may be mentioned; or the use of an ordinary gum-elastic catheter, with a tape passed through it, may be resorted to when these cannot be obtained. Michaelis advised that the cord be carried to the fundus uteri, whose contracting fibres will often retain it; and in the *London Medical Journal* for 1786, Sir Richard Croft published two cases which he had treated successfully by carrying it up and hitching it over the limbs of the child. It is almost useless to remark, that after the hand had been thus introduced, version would have been a much more certain procedure.

Besides these means, many others have been advised and lauded in their day; so inefficient, however, have they all proved, as to lead an Italian accoucheur, Nanoni, to ask whether it is not better to let the case proceed uninterfered with, that at least we may be assured of not injuring the mother; and another, Mazzoni, to advise that such a course be pursued.

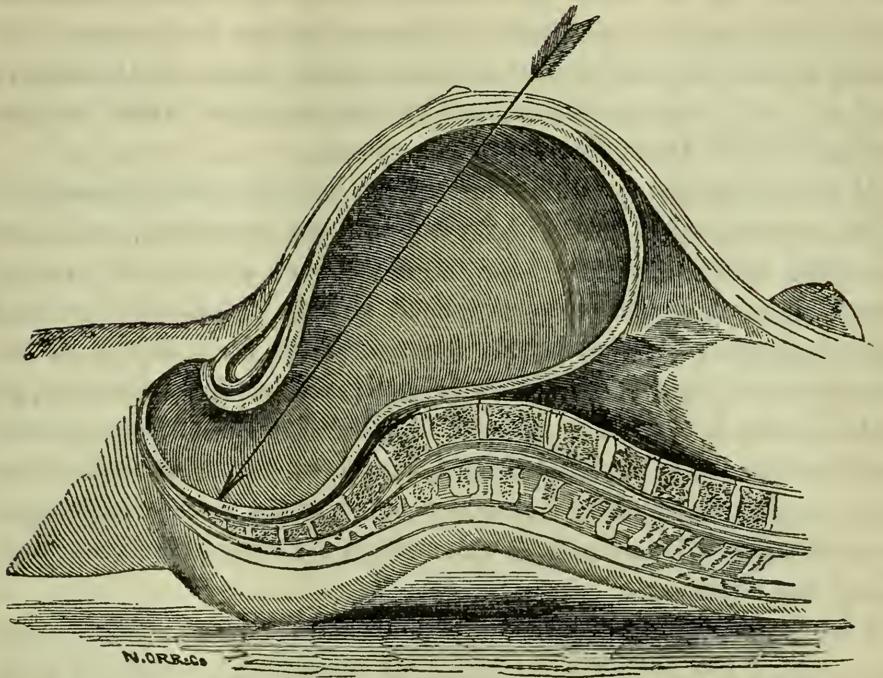
In the year 1856 I commenced some investigations into this subject, and proposed a plan by which I felt very positive that the difficulties attending the accomplishment of this indication might be overcome. It was not, however, until two years afterwards that I was able to obtain clinical evidence of the correctness of the theory; and then having done so, I had the honor of reading an essay upon the subject before the Academy of Medicine of this city.

The philosophy of the proposed plan rested upon the facts which I now proceed to develop. You are doubtless aware that the axis of the uterine cavity, in advanced pregnancy, runs markedly from before backward and above downward; that when the pregnant woman stands erect the fundus uteri tilts forward, and that the proper axis of the organ is in coincidence with a line running from the umbilicus (or a little above it) to the coccyx. Now place the woman on the back, and you will readily perceive that the organ offers to the slippery cord on every side an inclined plane, down which to slide into the vagina. This is likewise true when the woman lies on the side, though not quite in so marked a degree. The direction of the uterine axis, then, and the lubricity of the cord, are the causes for the untoward results attendant upon the accomplishment of the first of the indications which we have mentioned as an important one in treatment of this accident.

If by any means you could change the uterine axis so as to make it act in an opposite direction, it is evident that the slippery nature of the cord, so far from being detrimental, would be absolutely beneficial, and thus we would have overcome both the evil conditions with which we started out, and even made them useful to us.

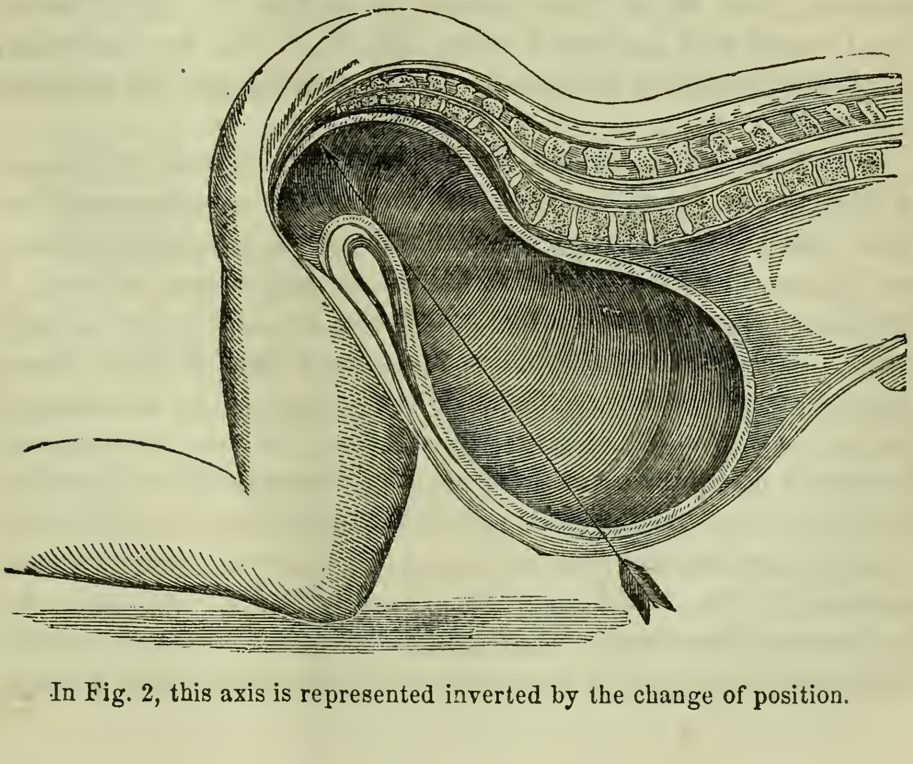
Examine the diagrams given on the next page, and you will at a

Fig. 1.



In Fig. 1, the arrow represents the direction of the uterine axis, which is forward and downward; the woman being on her back.

Fig. 2.



In Fig. 2, this axis is represented inverted by the change of position.

glance perceive that the desirable end may be accomplished by placing the woman on the knees and bowing the body forward upon the elbow, in the posture assumed by Eastern nations in devotion. By such a posture the axis is almost turned upside down, and the slippery cord will roll towards the fundus by the same law which brought the apple of Sir Isaac Newton to the ground.

If the uterus contained nothing but the cord, the simple assumption of this posture would probably be enough; but containing, as it does, the child, which obstructs the performance of the law of gravity, something more is necessary; the cord should be taken in the hand (or on a *porte cordon*) and carried above the head, where it will fall into the crevice of the neck. *If this be not done, and done effectually, the method cannot be expected to succeed.* Although this point was specially mentioned in the essay alluded to, I have been surprised to find that many, neglecting to observe it, and trusting to the posture alone, have been disappointed, and blamed the method for what their own inefficiency was chargeable.

I do not pretend to say that the method will not fail; but in many cases, nay, I feel confident, in nearly all cases it will succeed, if properly and intelligently employed. Let me instance how and why it has failed in *some* cases, at least. Last year, Dr. John T. Metcalfe, of this city, while traveling in Europe, was asked with reference to this plan of treatment, and assured by his questioner (an obstetrician of eminence) that he had twice signally failed with it. "Did you return the cord with the hand?" asked Dr. M. "No," was the reply; "I trusted entirely to the position, as recommended in the pamphlet sent me."

Some time after the reading of my essay, an intelligent practitioner of this city sent for me in consultation, in a case of prolapse of the funis. As I entered the room, the doctor smiled, and said: "I have sent for you to see whether you can reduce and retain this cord; I have given your method a fair and lengthy test, and it has signally failed." Going to the bedside, I found the woman with her knees buried deep in a feather bed, and her body supported by the hands; a position, of course, which did not much affect the axis of the uterus. I instantly placed cushions under her knees, made her place herself on her elbows, returned the cord, (which the doctor had not done,) and in about three minutes from the time I had entered, requested him to examine. "Why," said he, "I could not have been mistaken; the cord was certainly down when I examined last." It was no error in diagnosis, but an error in practice, which very nearly threw discredit on a plan of treatment which he had not intelligently adopted. The woman was delivered of a living child.

I have known several other cases where this source of failure has existed; but in some few cases it has failed when properly performed, and all the rules connected with it carefully observed.

During the last two years, I have not, I regret to say, industriously collected cases treated in this manner. Such as have been reported to me, I here exhibit to you by a table; guarding you, however, against the belief that a full *résumé* of the results of the method are therein embodied. It will, at least, serve to show you that in many cases the method has been successful, and I own to the intensest gratification in thus recording the number of lives which have been saved by it.

OBSTETRICIAN.	No. of Cases.	Failed.	Succeeded.	WHERE REPORTED.
Dr. Livingston, N. Y.	2	1	1	To the Author.
" G. T. Elliot, "	3	2	1	" "
" Garrish, "	1	1	..	Harveyan Circle.
" Vanderpoel, "	1	1	..	To the Author.
" P. Van Buren, "	1	1	..	Academy of Medicine.
" Underhill, "	1	1	..	Obstetric Section, Academy of Medicine.
"	1	1	..	To the Author, by Dr. Bronson.
" Meminger, S. C.	1	..	1	" "
" J. R. Wood, N. Y.	1	..	1	Harveyan Circle.
" O. White, S. C.	1	..	1	Charleston Medical Journal.
" W. C. Rogers, Green Isl'd, N.Y.	1	..	1	To the Author.
" Worster, N. Y.	1	..	1	" "
" Schmitt, "	1	..	1	" "
" Norton,	1	..	1	N. Y. Medical Press.
" Ferguson, N. Y.	2	..	2	To the Author.
" Ramsbotham, London	2	..	2	Reported to Author, by Wm. Hall, Wilmington, N. C.
" Thomas, N. Y.	4	..	4	
" Brander,	3	..	3	Cincinnati Lancet.
" Hawthorne, N. O.	1	..	1	To the Author.
" Furman, N. Y.	4	1	3	" "
" McLeod, "	3	1	2	" "
" Noeggerath, N. Y.	1	..	1	Contributions to Midwifery.
" Martin,	2	..	2	American Medical Times.
" Woodhull, N. Y.	1	..	1	To the Author.
" Elsberg, "	1	..	1	" "
" Bibbins, "	1	..	1	" "
" W. T. Brown,	1	..	1	Cincinnati Observer.
" Mendenhall, Ohio	3	..	3	Cincinnati Lancet.
" A. K. Gardner, N. Y.	1	..	1	
Total	47	10	37	

In justice to the method which I am now describing to you, (and which I have called the "postural treatment,") I must say that several of the cases of failure were due to the improper way in which it was followed out, or to some such complication as malpresentation, deformed pelvis, or placenta prævia. This, however, by no means applies to all.

Means for accomplishing the Second Indication.—The second indication may be accomplished by one of two operations—version or the forceps. Should the head be above the superior strait, or some other part than the head be presenting, the first should be chosen; should the head be presenting, and engaged in the pelvis, the second should be preferred.

Both these operations may be attended with success; but even with these at our command, look at the terrible mortality attending the accident under consideration, and you will at once agree that their results are by no means certain or satisfactory. There is a certain set of obstetricians who affect to despise in practice any of the milder means of interference recommended in this and other cases of abnormal labor, and resort at once to those which are more striking, rapid, and apparently efficient. There are many, for instance, who neglect all means for returning the prolapsed funis, and resort at once to one of the two operations we are considering. With such it is not my intention to argue; lest some of you, however, may be beguiled into the adoption of their views in connection with the subject now engaging us, I deem it best to expose the superficial, untenable, and irrational nature of their position.

The woman is in no manner of danger from prolapse of the cord, and any operation adopted for the benefit of the child is at her risk. Now all will admit that version is at all times a dangerous operation for her, and no one will maintain that the application of the forceps, even in the hands of an adept, is free from risk. If, however, these operations promised great results for her offspring, every woman should willingly place herself to a certain extent in jeopardy; so, before drawing any conclusion, we must examine this point.

As I have just stated, even with these operations at our command, over one-half the children have died, and the following statistical facts will go to prove how unsuccessful they have been in the hands of the most capable obstetric physicians:

Of the 21 cases treated by Giffard, 15 were delivered by version and 5 by the forceps, and yet 17 were lost; the 4 cases by Perfect were all turned, and 3 were lost; and of 86 by Jansen, 46 were delivered by version and 6 by forceps, and yet the mortality to the children was 38.

By way of contrast, let me now give the results obtained by the postural method:

Of three cases delivered by Brander, none were lost.
Of two " " " Martin, " "

Of four cases delivered by Thomas, none were lost.
Of three " " " Mendenhall, " "
Of two " " " Ferguson, " "
Of four " " " Furman, one was lost.

Of course these are selected instances, but they are the largest numbers reported, except Elliot's three cases, of which two were lost; one of which was, however, a breech presentation, and another placenta prævia. I leave it now for your consideration, gentlemen, whether a rapid resort to these operations in prolapse of the funis is not clamorously pronounced as irrational and culpable, by the facts that they expose a woman (in no danger if they were avoided) to risk of her life; that they by no means insure for the child a bright prospect for safety in compensation for this; that there are other means devoid of danger much more likely to succeed; and that even if these fail, resort to either operation may be had as well as if it had been done in the beginning. If my premises are correct, (and I challenge their contradiction,) this is not simply a matter of opinion, it is one of conscience.

In concluding this lecture, let me beg of you to fix in your minds the following rules:

1st. As soon as you have diagnosticated the existence of prolapse of the funis, explain the reasons for the change of position to the woman, and place her upon the knees and elbows, elevating the buttocks as much as possible.

2d. Pass the entire hand into the vagina, passing the cord (if towards the sacrum) down under the head, and thus over the symphysis pubis, and push it past (*i. e.*, above) the presenting part.

3d. Should it return, repeat the operation, and keep the hand in position for two or three pains.

4th. Keep the woman in this position until the head has been driven into the pelvis, then let her lie as she chooses.

5th. Should this means fail, resort to version if the head is above the superior strait; to the forceps if below it.

NOTE.—Dr. Leopold published an article upon the postural method of treating prolapse of the funis in the *Deutsche Klinik*, July 7, 1860; and in the "Summary of Medical Science," published by Dr. Wells, of this city, April, 1861, Dr. L. is supposed first to have recommended the plan to the profession. It is of little moment who originated it, so that it proves efficient in saving human life. But both these gentlemen are laboring under a mistake; my Essay, describing and introducing it, was read before the Academy of Medicine in 1858, and was taught in my lectures two years before that time.

Report of the Clinic for Diseases of Women, (March, 1861.) ENDOMETRITIS—ICTERUS—INTERCOURSE AS AFFECTING UTERINE DISEASES, AND THEIR TREATMENT. By AUGUSTUS K. GARDNER, M.D., Professor of Clinical Midwifery and Diseases of Women.

Case 1st.—An old case of endometritis, nearly cured. The Professor mentioned that in this case there was now no ulceration upon the os tincæ, none of the pathognomonic secretion of glairy, adherent discharge from the cavity, no hypertrophy of the cervix, little apparent redness, and no eversion of the lining membrane of the cervix. But, notwithstanding all these negative evidences of health, there was a positive evidence of disease present, viz., the enlargement of the os, which admitted the end of the finger within it. This woman had had but a single child. In women who had given birth to many children, this enlarged condition was sometimes a second nature; but so far as my observation goes, such a condition in the childless, and in those who have given birth to but few children, was always a sign of disease; more especially, when disease had been previously recognized, it was a sign that the cure was not complete. A few more intra-cervical cauterizations will undoubtedly remove every trace, and thus prevent that tendency to relapse which is so frequently noted in this disease.

Case 2nd.—An old woman. This patient presents upon the first look signs of disease. She has icterus. Now icterus is not a disease any more than leucorrhœa or dropsy. Yet you hear it popularly said that this or that person has the yellow jaundice, black jaundice, and the like. It is very well to remember these names, as sometimes it may be desirable to use them; but remember that it is but a symptom of many, often very diverse, diseases. It may be symptomatic of acute inflammation of the liver, occasionally of cirrhosis, and of obstructions of the excretory duct of the gall-bladder, by stricture or stones. We sometimes see it present even in other diseases, a marked instance of which was the case of our lamented friend, Dr. C. E. Isaacs, who, from this symptom, was supposed to be suffering from some affection of the liver, but who was found at the post-mortem examination to have died from pneumonia, there being but little if any affection of the liver. Icterus, then, is a symptom of some disease which arrests the elimination and excretion of the bile, which, on that account, remaining in the circulation, gives to it that yellowish or greenish-yellow tinge, discoloring the skin and sclerotica, as in the case before us.

Now, in these cases, it is sometimes desirable merely to stimulate the liver, so as to promote the secretion, and we have numerous medicines for this purpose, the most common of which are the mercurials. But there is often some objections to the use of this article, and then we may resort to taraxacum or the extract of the May-apple, PODOPHILLINE. Respecting this last, the profession have not yet determined upon its full value. I have been in almost daily practice of using it for several years, and have made up my mind respecting its potent qualities. It undoubtedly does act as a stimulant to the liver, which, under its influence, pours out bile profusely. This action is not temporary, but is persistent for several days after its administration. It is, therefore, an admirable adjuvant to other cathartics which are apt to be followed by constipation, requiring a subsequent laxative to again move the bowels three or four days after their exhibition. Given alone, it is apt to gripe, and it should therefore be administered with some laxative, as jalap, or rhubarb and some carminative. Care should be taken in its administration to children, for I have known it to be so excessive in its action as to produce something approaching collapse. Another peculiarity in its action is, that it is very persistent, continuing to operate for several days upon the intestinal canal; being in this respect the opposite of most medicines, which are apt to be followed by a greater or less constipation proportionate to the catharsis.

Case 3d.—This case is one of an ordinary character; some uterine congestion, hypertrophy of the cervix, etc. It is not especially interesting in itself, but in connection with it, the question is raised, *Whether sexual intercourse is or is not to be avoided during the treatment*, or in order to effect a cure ? Very frequently during my course of lectures this winter, I have alluded to the fact that various diseases of the female organs were aggravated, and produced by the sexual congress; yet still the subject has been but imperfectly presented. This morning, I will still further elucidate it. Coition is so important a physiological function, and it is so difficult for the young practitioner to learn respecting the ills which arise from its abuse, either from actual experience of their treatment, or by their study in scientific works which allude but very imperfectly to them, that the theme may well deserve your serious and most studious attention, as it may not only save embarrassment, but also enable you the more easily to recognize and properly treat the many ills which result from overaction in this direction.

The earliest period to which the physician is summoned on account of physical injury happening to the female is immediately after the consummation of the marriage. It is too often the case that, inspired with the idea that every man must in like circumstances perform his part manfully, that the husband does it brutally, and the immediate result is a *laceration of the hymen fourchette* and soft parts, followed by hæmorrhage, sometimes so profuse and uncontrollable as to demand the physician's attention. Usually, this hæmorrhage will be easily arrested by cold water, ice to the vulva, or what is less dangerous, pressure, or a pledget of lint wet in solution of the liquor perchloride or persulphate of iron, more or less diluted, and pressed firmly upon the bleeding part; sometimes a little arterial vessel is ruptured, and it may be necessary to twist it with a torsion forceps. In rarer instances, it is requisite to take up the artery; while generally, holding the tissue pressed firmly between the thumb and fingers for ten or fifteen minutes, will suffice to stop the flow, and by rest and cold applications it will generally be prevented from recommencing.

Sometimes, instead of any laceration, with rupture of any vessel, the parts are much bruised with *ecchymosis and extravasation into the labia majora*, which are consequently much swollen and painful. This condition is best treated by cataplasmata or cold applications over the parts; and a few days only are required, with rest and light diet, if the inflammation be sufficient to demand constitutional treatment, to effect resolution, absorption, and cure. Sometimes, however, this is not the case, and the parts go on to suppuration; an abscess forms, which, if not opened, may spread through the loose cellular tissue and become very large, and greatly destroy the parts. Occasionally, even more serious results, from the supervention of erysipelas, may be effected; and I have known an abscess to be thus formed in the labium, which, after breaking and discharging its contents, a day or two after the ulceration had spread so as to destroy the artery, which bled so profusely in spite of all the efforts of most skillful surgeons to arrest it, as quite to threaten the life of the patient; and it was not until the abscess was completely laid open, the artery found and tied, by a long, serious, and painful operation, that the hæmorrhage was finally stopped.

The effect of coitus is very frequently seen in the *inflammation of the labio-vaginal gland*, sometimes called Hugier's gland, from its recent discoverer and pathologist. This is one of the commonest forms of acute inflammatory disease of these parts, and is caused not only by coitus, but also by the friction arising in the course of horseback riding, particularly in those unaccustomed to this exercise, and more especially when this excitation is taken during the period of the menstrual congestion. The abortive treatment by cold and astringent applications and leeches, or failing in that, by cataplasmata and the subsequent opening of the abscess, it is not necessary to enlarge upon here.

Vaginitis is also the direct result of excessive coition. This complaint does not materially differ, as I have described to you, from gonorrhœa, unless it be that the latter is more virulent. Indeed, I am very doubtful if gonorrhœa should be considered a specific disease; certainly I have seen cases of vaginitis not different in any respect from gonorrhœa after a connection of unquestionable purity; and it is generally recognized that urethritis in the male is often produced without an impure connection, being the result of uterine leucorrhœa of an acrid character. It is considered by some that the presence of urethritis complicating vaginitis is a sign of the specific character of the complaint; yet this, too, I am convinced, is incorrect, for reasons similar to those just enunciated.

Vaginitis is unquestionably the product of excessive sexual intercourse, and we find it perhaps more frequently in the wives of young, sanguine clergymen, and other men of like continent habits. Unlike the majority of the young men of cities, at least at the present day, their youth is spent in abstinence and imagination. Marriage with them is a rite which justifies the freest and fullest indulgence of their pent-up passions, and the consequence is that they are apt to go to such excess that disease is the result. Moderation in the indulgence of all the appetites is absolutely requisite to avoid disease.

So far as the treatment is concerned, antiphlogistics, rest, and mild topical astringents, a grain or two of the nitrate of silver to an ounce of water, often repeated, into the vagina, and an unstimulating diet, is all that is requisite. For a local application I have found no injection more efficacious than the following formulæ:

℞.—Zinci Chloridi, ʒij.
Aquæ Puræ, ʒiij. M.

Or, what is about the same,

℞.—(Squibb's) Liquor Zinci Chloridi.
Eight or ten drops of either to a tumbler of water.

Not unless the urethra is implicated is any medicine by the mouth necessary. If so, copaiba, cubebs, potassæ, etc., to act specifically and modify the acridity of the urine, will be found requisite.

Coitus does not, in the normal condition of the uterus, produce disease of the surface of the cervix. It, however, if very frequent, brutal, or in consequence of a too long virile organ, will produce congestion of the organ; then, from its inflamed condition, abrasion of the mucous membrane; from a consequent hyperæmia, hypertrophy, and increased weight, consequent prolapsus, and a whole train of depending symptoms. Where these symptoms exist, if acute disease continues, coitus is inconsistent with cure. When, however, we have chronic hypertrophy of the cervix, endometritis, as in the case now before us, I find that moderately frequent intercourse, entered into without an inordinate sensuality, is beneficial, and so far from being the cause of injury, acts as a direct stimulus to the parts, unloading the congested and turgid glands, and by exciting them to a more profuse secretion, tends to reduce the hyperæmia of the organ.

When, however, there is simple abrasion of the cervix, unaccompanied by hypertrophy and thickening of the parts, or even deeper ulcerative disease, which is very rare, intercourse will generally be found productive of bad results. The glandulæ lining the neck not participating in the disease, no benefit will accrue from their stimulation and unloading; and very frequently disease may be lighted up in them and spread either as an acute or chronic disease, with that facility of "propagation by neighborhood" so marked in uterine diseases, upon which I have already often enlarged.

Where hæmorrhage follows immediately after coition, with or without pain, there is always some disease present. It does not generally proceed from the just described ulcerations, unless they be of the *fungous variety*, regarding which you have been instructed; but it is usually an evidence of more serious disease, perhaps of a small mucous polypus, or a fibroid, either pediculated or submucous, or of a cancerous or phagædenic ulcer, to which appropriate treatment should be directed. The hæmorrhage produced by coition from a mucous polypus not larger than a pea, is sometimes exceedingly persistent and debilitating.

Coition in those suffering from endometritis is not necessarily in all instances injurious, but it is apt to be attended by sudden and most intense spasms of pain simulating colic, which comes on not unfrequently in the course of the act. I have one case in my memory where I administered a table-spoonful of the Tinct. Opii without relief, and was obliged to give additional doses of the same narcotic before the violence of this intense spasm was assuaged. Sometimes these pains come on at other periods, especially after the sudden suppression of the menses. These occur very commonly among prostitutes, and are sometimes called *colica scortorum;* and their pathological character not being well understood, they are variously considered to be peritonitis, inflammation of the bowels, sometimes more nearly as metritis; but in almost all these cases are improperly treated by mercurials, from which I have seen many uselessly salivated. The temporary treatment is opiates and hot fomentations, and subsequently leeches, or scarification of the neck, intra-uterine applications of styptic unguents, and generally abstinence from sexual intercourse. The latter is, however, the most difficult prescription to enforce among the class in whom it is so apt to occur, already referred to.

In the pregnant, coition is often to be entirely prohibited, especially in those who have had previous abortions. I have elsewhere stated that for this falling of immature fruit there is always a cause. Often it is owing to ulceration of the os, fissures of the cervix, which are separated by the development of the womb and the absorption of the neck into its substance. Coition starts up a slight bleeding, which is speedily increased, till it becomes so augmented that an abortion is the almost inevitable result. *Obsta principiis* is the rule, and abstinence from coition and the freedom from all uterine irritation is the method of enforcing it.

So, too, in the cases of so-called "irritable uterus," or in those women "who have a tendency to abort at certain periods," but where there is always some certain and appreciable disease, be it as above mentioned, or endometritis, little polypi, spinal irritation, etc., coition is absolutely to be avoided until the usual period for abortion has been assuredly passed, and resumed only with the greatest care. In fact, excessive intercourse will of itself produce abortion, as certainly and for the same reason as the water douche, by simple uterine irritation. This is, in my opinion, the reason why prostitutes so rarely become mothers. It has been supposed by some to be the mixing of various semen, etc.; but I believe it to be simply and solely because the uterus is not allowed the rest indispensable to form the *nidus* requisite for the ovum, but, constantly irritated, throws it off in the earliest stage. Of course a career of prostitution eventually so disorders the generative apparatus that they are rendered incapable of fulfilling their functions under any auspices.

Finally, to conclude this hasty *résumé* of the hygienic proprieties of coition, after delivery, this act should be renewed with great circumspection, and not until a proper period of time has elapsed. Not unfrequently are the sexual relations re-entered upon with a haste savoring more of bestiality than of creatures endowed with reason and sensibilities. The period cannot be determined by days, but time should elapse sufficient for the entire and complete cessation of all profluvia, for the resolution of the uterus, for the restoration of the vagina and perineum to their normal tone and contractility; operations which will rarely be completely effected in less than a month, and which usually exceed this period. Indeed, we not unfrequently find the bloody flux continuing double this period. The poetic exaggerations of Michelet, in regard to the "internal, constant wound" with which women suffer, is in this respect more worthy of consideration than in any other.

I have thus hastily strung together, and presented with some attempt at sequence, views which have been enunciated throughout the course. Their careful consideration will, I am sure, save you from much anxiety in your future career. They should be considered not as a prurient theme for a vicious imagination, but simply and solely as an investigation of great physiological and pathological laws. Such contemplations of any function in God's creation elevate and refine the man, while the morbid idealism by the depraved mind but degrades the thinker, and dishonors the Creator of all things.

Report on the Clinic for Diseases of Children, held in the New York Medical College, Session 1860–61. By A. JACOBI, M.D., Professor of Infantile Pathology and Therapeutics.

(Continued from August No., p. 107.)

The following pages are by no means intended to contain a full exposition of the materia medica of the infantile age. They are destined rather to show, condensed and summarily, part of the practice of the Clinic for Diseases of Children in the New York Medical College. Thus they will, I hope, prove a convenient compilation to those gentlemen whom I have had the honor to instruct, and perhaps a welcome subject for examination and criticism to the other members of the profession. They will judge whether the principles adopted by me in the treatment of the diseases of children are correct, and particularly whether we are at all justified in speaking of a materia medica of the infantile age. I am sure that we are. A physiology and pathology of the infantile age have long been treated of as separate subjects, and I am sure that therapeutics have the same right to form special subjects for investigation. It will soon be seen that, for the purpose of attending the diseases of children, it is not sufficient to diminish and sweeten the doses administered to adults.

Of particular importance in the treatment of diseases of children is the regulation of their diet. It is well understood that infants nursed by their mothers will, under equal circumstances, thrive better than such as have been brought up by a wet-nurse, or by hand; that regular habits, cleanliness, and fresh air contribute a great deal to their health and comfort; that the health, temper, and physical affections of the mother or nurse influence those of the infant; that their very pleasures, passions, and habits will leave their traces in the nourishment and nature of the child. It is most important, therefore, to regulate the quality and amount of food to be taken by infants, and the time when it is to be given. Many irregularities or anomalies in the functions of the infantile organism will be removed or healed by attending to these subjects, as it is well known that, for instance, superabundance of fat, or caseine, or want of sugar in the mother's milk, will bring on diseases of the digestive organs of infants. In such cases, a change in the diet is more important than any pharmaceutic remedy; many cases of constipation, for instance, in nurslings, are produced by the superabundance of caseous matter in the milk; it will appear in the hard fæces as white curdled flakes. The most reliable, and, at the same time, mildest remedy, is the addition of a portion of sugar to the breast-milk. I am in the habit of allowing the nursling a piece of sugar dissolved in a small quantity of water, to be taken immediately before each meal, in such a manner that the mixture of sugar and breast-milk is effected in the stomach.

Diseases of the digestive organs in infants and children are very numerous, and the rate of mortality produced by them is very large; moreover, the digestive organs suffer almost in any disease of any other organ, and the preservation of their function is, therefore, of the utmost importance, both as a prophylactic and healing agent. While the infant at the breast requires, under favorable circumstances, nothing but the breast, the amount of food must be diminished in the majority of acute diseases; the patient must frequently be refused the breast, which he will instinctively turn to to soothe his thirst and feverishness, and allowed water instead. Many attacks of fever are cured, that is, get well, under the influence of cooling beverages alone, without the addition of medicines; water, soda-water, or lemonade, being more powerful than they are. Many cases of indigestion will be cured by the addition of a little salt to every meal, or of a little vegetable slime to cow's milk, where there is a great tendency to gastric acidity and too rapid and hard coagulation of the food. Barley, with its large proportion of phosphates; oatmeal, with its amount of phosphates and mucine; arrow-root, with its superabundance of amylaceous matter, require their own individual indications in practice.

These remarks have been made to remind my readers of the fact that sometimes much can be done by apparently very little. We all know, moreover, that many patients will sooner recover their health if left alone to the powers of nature, than if fed on medicines. If such is the case in adults, it is the more so in infantile age. There is a great tendency in the nature of children to help itself; in no other age do so many diseases take their regular course and disappear without leaving any trace of their existence. In such cases the physician is but the observer of the process; in being satisfied with this modest position, he will prove the true physician who feels himself the minister of nature. Such are the cases in which the so-called expectant method is indicated; which have given rise to the nihilistic repudiation of all and any remedial agents, and which has formed the principal part of the curative feats of homœopathy. There are other diseases, however, the course of which would probably be a regular one, but which may be shortened by medicinal agents; they require medicines, first for their direct effect, and further, as a prophylactic given for the purpose of avoiding any accidental coincidence with other diseases. Such a disease, for instance, is pneumonia in the infantile lung. It requires, in an otherwise healthy child, five or six days to take its usual course; we know that, but nevertheless are justified and obliged to give proper medicines, to avoid complications, remove the danger of excessive exudation, and relieve certain troublesome symptoms. In other affections, with apparently a very mild course, some dangerous symptoms will sometimes arise suddenly, and require medicines; there are others which can by no means get well without their administration; and others which would either lead finally to destruction, or to recovery, without the administration of medicines, but in which prominent symptoms require their use, to relieve and comfort the patient for a certain period.

The infantile organism is a growing, and, as it were, an incomplete one. The organs are in full development, but not equally and harmoniously; others undergo a retrograde metamorphosis. This inharmoniousness of development explains a number of abnormal functions and diseases, and the rapid growth the necessity of constant action of the organs of digestion and assimilation. As disease constitutes the physiological function and structure of an organ under altered circumstances, and the organs alluded to are constantly at work, the many diseases of the infantile digestive organs, and the frequency of diseases generally, are well explained. Twenty-five per cent. of all children born in France die before they reach the age of a year, and more than sixty per cent.

of all the deaths occurring in New York are in children of less than five years of age. Climate, age, and constitution of the parents; hereditary disposition to syphilis, scrofula, tubercles, insanity, epilepsy, etc.; the diseases peculiar to the infantile age; the irritability of the digestive and respiratory organs, and of the cutaneous and nervous systems, swell the number of diseases occurring in early age to a very large number. The general irritability of this age has always been known, and better known than understood; impressions are easily made on the infantile organism, by whatever cause. Thus it happens, firstly, that smaller doses of medicine will have the same effect which is produced by larger ones in adults; but secondly, also, that a rapid and decided effect is required to counteract the rapid devastations of disease. The individuality of the cases and a correct diagnosis will determine which of the two indications is present.

A number of authors have attempted to determine the doses of medicines for certain ages. They, for instance, uniformly declared that, if the dose given to an adult was 1, that of a child under a year was from one-sixteenth to an eighth; from the first to the fifth year, from one-sixth to one-third; from the sixth to the fourteenth, from one-half to three-quarters; from the fifteenth to the twentieth, from four-fifths to one. There is no such uniformity. Not to speak of the difference as to constitution, development, and strength in individuals of equal ages, we shall soon learn that a number of remedies are tolerated, or efficient, in but a very small; and others, in proportionately a very large dose, in the infantile organism.

I abstain from making any remarks on the mode of administering remedies to children, with the exception of this: that it is not so unimportant in the diseases of new-born children to take in regard the taste of the medicine, for it is not true, as has always been stated, that new-born and very young infants show no action of the organs of taste; but that great care should be bestowed on the selection of the *corrigens.* Many disorders of the digestive organs do not agree with the administration of the syrups so commonly used; they will add to the acidity of the gastric secretions, and disturb digestion generally. In the majority of diseases of the digestive organs, particularly in catarrhal affections of the mucous membrane of the stomach and intestinal tract, it is much better not to add a substance the transformation of which into acid is more than merely probable.

I. Opium.—A number of medical authorities object to the administration of narcotic remedies in the diseases of the infantile age. A large experience has shown, indeed, that they have sometimes been used to a great disadvantage, even to the destruction of patients. It has been said that narcotics greatly weaken the powers of the nervous system; that they prove injurious to the circulatory organs and general nutrition, by their diminishing the number of pulsations, and that they prevent the process of secretion on the mucous membranes, in the mouth, in the intestinal tract, and in the kidneys.

Such are, indeed, the effects of the narcotics; and those who favor and advocate their medicinal use have derived from these very facts, established by both physiological experiments and experience at the bedside, a number of indications for their administration. It is argued, then, that narcotics are invaluable in infantile diseases; they are particularly required in cases of exaltation of the nervous system, as, for instance, in neuralgic affections, (which, however, are very rarely met with in early age;) as well as to relieve pain in incurable diseases, and even pain in inflammatory affections, in which there is no proportion between the pain and the fever and other symptoms of inflammation. Again, increased secretion of the mucous membranes forms an indication for their employment. They are further recommended in all diseases in which the nervous system is prominently suffering, in either its centres or peripheric parts, from spasmodic affections, such as tetanus and convulsions of other nature; and are also much employed in cases of sleeplessness.

The latter indication is among the first to be confined to certain limits in the diseases of the infantile age. Children require sleep, and incline to enjoy it; they will sleep sufficiently, unless the functions of their system are somewhere disturbed. When they are sick and sleepless, the question is a very serious one whether the sensations of sickness ought to be kept down to such an extent as to enforce sleep. If this was the only effect of the narcotic, the indication might be followed up at any rate; but the suppressed secretion of the mucous membranes, and the other consequences of the administration of the narcotic, might add a new pathological symptom to those existing. At all events, the circumstances of the case will have to be weighed in all its relations, before sleep is to be enforced by narcotics. As a general rule, sound sleep will not return, particularly in inflammatory and painful diseases, before the morbid process has commenced to take a favorable course.

The objections raised to the administration of narcotics in general have particularly been made to opium, the most powerful amongst them. It has been stated, and proved, that its action is a very strong, and at the same time a very uncertain one, in infantile diseases, and that its peculiar effect on the brain, producing sleep, somnolence, and sopor, may often give rise to sudden death. This is really so. Death has often ensued after the administration of opium in proportionately small doses, and it is good to bear in mind the memory of such untoward events. Dr. Kelso, for instance, reports a case in which a child, nine months old, was destroyed in nine hours after taking four drops of laudanum. In another case, a child between five and six years old died in thirty-six hours after having taken an amount of paregoric containing from three-quarters of a grain to a grain and a quarter of opium. In a third case, a child, aged seven months, was destroyed by a dose of paregoric equaling a quarter of a grain of opium. Dr. Taylor quotes the case of a child, four years and a half old, who died of a dose of four grains of Dover's powder, containing no more than two-fifths of a grain of opium; and Dr. Christison mentions an instance in which the administration of three drops of laudanum in a chalk mixture, for diarrhœa, to a stout child fourteen months old, was followed by coma, convulsions, and death in about six hours. Even smaller doses have either proved fatal, or given rise to very serious accidents. Clarke has observed a fatal effect from half a tea-spoonful of the syrup of white poppies; and a patient of Marley's came near death from the same dose. Merriman, Ryan, and Pereira have seen an unexpectedly strong narcotic effect on the administration of a single drop of laudanum; and the case of the death of a newly-born, from the same dose, is on record.

The number of these cases could be considerably increased by extracts from the literature of all countries. They prove that there is some uncertainty in the administration of opium to children, and render it worth while to look into its effects and dangers. Its effects are, as above stated, eminently those of narcotics in general. It relieves pain and removes sleeplessness; acts as an antispasmodic; is a powerful antiphlogistic, from its effects on the action of the heart and blood-vessels; and suppresses the secretion of the mucous membranes and the glands. All these effects are of a secondary nature, they being under the control of the nervous system, which in infantile age stands in a somewhat different position to the whole system from that observed in adults.

We are hardly at liberty to say that in adults any organ or system of organs is the superior of the others. Except in a diseased condition of the system, there is, in advanced age, harmony amongst the parts constituting the body. Not so in children. What is considered an abnormal condition in adults, is frequently but too normal in early age. At all events, some superiority of the nervous system is well perceptible. The brain is, in proportion, the larger the younger the individual, and the almost monstrous proportion of the size of the head to that of the other parts of the body, at the time of birth, is but slowly counteracted in the course of the first years of life. Not only the size is in a different proportion to that of other organs and the body in general, the functions, some of them, at least, are even more so. There is scarcely any affection of the organism in which the nervous system would not readily participate. Convulsions will, in many young children, prove a very frequent companion of any feverish or inflammatory disease, and follow a number of peripheric irritations, which appear to be in no connection with the nervous centres, but through a single peripheric nerve. I need not dwell on this subject, nor did I intend saying anything but to direct the attention of my readers to the well-known general impressibility of the nervous system in infantile age.

The symptoms produced by a large dose of opium are those of cerebral congestion. The results of post-mortem examinations, in cases of poisoning by opium, are those of congestion. But congestion, or rather hyperæmia, is known to be a very frequent occurrence in children; so much so, that many of them are always afflicted with or suffering from it. This shows, then, how small the boundary is between the physiological and pathological condition; for while it is by no means doubtful that cerebral hyperæmia may give rise to a number of severe symptoms, it is certain that a considerable amount of blood is found in the cerebral and meningeal blood-vessels of young children, in their physiological condition. This fact is explained by the peculiar formation of the infantile head. The brain is not contained in an osseous cavity, but the cranium is composed by a number of bones connected with each other by loose, movable bridges of fibrous tissue. These sutures will not ossify before the commencement of the second year of life. Up to this time there is not acting upon the blood-vessels of the brain and its membranes the lateral pressure of later life, produced by the immovable walls of the cranium. Thus, in any case of sickness in which the circulation is disturbed or obstructed in any distant part of the body, the brain in small children is apt to act as a reservoir of the blood not permitted to enter or pass another organ. It is a peculiar occurrence that the brain has, as regards the distribution of the blood, the very same function in the infantile organism which is assigned the large glands of the abdominal cavity, liver, and spleen in advanced life.

The dose of the medicament sufficient to produce congestion of the brain varies a good deal, according to the state of health, the temperament and constitution of the patient, and idiosyncrasies. Idiosyncrasies certainly there are, perceptible in the action of this remedy, as well as in that of any other. Medicinal agents and articles of food are not equally well tolerated by all individuals, and in a great many cases the individual capacity of tolerating opium has to be found out. That bad effects have been observed, is not doubtful; nor even that they have occurred with good observers and eminent practitioners. They will, however, be easily explained by such as have, perchance, met with exhausting vomitations after an indefinitely small dose of ipecac, or with copious salivation after a single small dose of calomel. I have, myself, effected a copious salivation in a healthy man by the administration of half a grain of proto-iodide of mercury, in a case where I have not the slightest suspicion of the drug having been decomposed. Thus, there is danger from even small doses of opium, but such only as will occur with any remedy endowed with powerful effects. This, however, is far from counter-indicating its administration, but ought to have the effect of rendering us cautious. We ought to stop the administration of opium as soon as contraction of the pupils takes place, and paleness of the face and somnolence set in. Nor ought we to commence by large doses. The late Schoepf Merei, the director of the Children's Hospital at Pesth, Hungaria, and afterwards Professor of Infantile Pathology in the Manchester, England, School of Medicine, and well known as a medical writer, prescribes opium very rarely to the newly-born; from the second to the third week, his medium dose is the hundred and twentieth of a grain; from three to six weeks, one-hundredth; from six to eight weeks, one-seventieth; from two to four months, one-fortieth of a grain. The action of a proper dose of opium is, according to Schoepf Merei, manifested half an hour after its exhibition, and lasts from three to six hours. He has seen cases of narcotism produced by the administration of opium; even two cases of death; but a moderate degree of narcotic action he has never seen to be dangerous in such cases where the use of opium had been distinctly indicated.

I may as well state here, that the doses of opium given by Prof. Schoepf Merei are just the same I have thought proper to give for a number of years. But the duration of its effect I have not found so long as he appears to have observed. The doses mentioned I repeat about every three hours, and add, that up to this time, I have not met with any untoward accident. Certainly, I have met with cases of moderate narcotism, but I have not yet been so unfortunate as to cause death by the medicine. Lastly, I wish to direct the attention to Schoepf Merei's assertion, that whenever opium has been really indicated, he has not been unfortunate in its administration. I go further, contending, as I have done in a lecture delivered a long time ago in the College of Physicians and Surgeons, (*New York Journal of Medicine*, September, 1859,) that whenever a medicine is really indicated, it is tolerated in large doses. Thus it is, that in peritonitis, for instance, in children, we may at once resort to large doses of opium, availing ourselves of the discovery of Prof. Clark, as well in children as in adults, and following the example Prof. G. T. Elliot, published some years ago; thus it is that, in a number of cases, opium will sometimes be tolerated in really immense doses. The case related by Percival, and quoted by Dr. John B. Beck, in "Infant Therapeutics," p. 19, is illustrative of this fact. A young man was admitted into the Manchester Hospital on account of a violent spasmodic attack which recurred periodically in the evening, and after trials of various remedies, doses of opium sufficiently large to mitigate the violence of the paroxysms were ordered; he took twenty-two grains every night during a week, without producing any soporific effect. On the eighth night he had no return of the spasms. He nevertheless took the opium, and in the morning was found dead. The effect, then, depends totally on the indication. As a general rule, it ought to be remembered that no medicine ought ever to be given without a strict indication; and, as I have stated, wherever the diagnosis is correct and the indications based on the distinct knowledge of a case, the corresponding remedies may be selected with boldness and confidence. I distinctly remember the case of a boy of twenty-two months, who had a very severe attack of wide-spreading, gastro-intestinal catarrh. Recovery did not take place in the usual time, and after a while the usual symptoms of enterohelcosis, ulceration of the follicular patches, showed themselves. The secretion and peristaltic motion of the intestines were such, that between twenty and thirty passages occurred day after day, week after week. In order to check the irritation, in fact, to paralyze as it were the muscular layer of the intestines, and to suppress the superabundant secretion, the use of opium, internally and in injections, was resorted to. Careful doses, a few drops of laudanum, daily, were commenced with. But this dose had no effect, and had to be increased daily; so much so, that the patient took nearly three grains of opium internally, and six grains in injections, which he almost always kept every day. These immense doses had to be continued three weeks, until decidedly favorable symptoms showed themselves, and then had to be diminished gradually. The same experience I have gained in a case of intestinal ulceration, resulting from typhoid fever in a girl of three years; she took as much as a daily dose of two grains of opium, for a week.

The question, why it is that such immense doses of opium are tolerated, is still an open one; for we cannot say that the fact based on experience, that when indicated large doses of medicines are tolerated, amounts to anything like an explanation. It is a statement which we ought to be aware of from a merely practical point of view, but nothing else. If it is true that a bad article only is tolerated in large doses in inflammatory diseases of the abdominal organs, why is it that we never hear of so large doses required or taken by a person suffering from sleeplessness alone? Objects of experience, there are enough in the practice of every physician, and nevertheless, no large doses are ever given for the purpose of forcing sleep. Or is the cause of the large doses of opium being tolerated this, that it passes the intestinal canal without being absorbed? But is the stomach, in cases of intestinal ulceration of the kind mentioned above, any the less capable of absorption? Are not its digestive powers in this very disease immensely increased? And is it not a fact which every one is aware of, that the immense loss of secretion from the intestinal mucous membrane is barely made up by the introduction of immense quantities of nutritious food?

After these remarks, I proceed to lay before my readers a short synopsis of the affections of infantile age in which I have administered opium, besides those alluded to above. I beg permission to state, that I have not at all pretended, nor desired, to write an elaborate article on the subject, but to enumerate a number of diseases and symptoms in which I have found the use of opium not only pardonable, but useful and necessary.

1. *Cerebral Irritation.*—In spite of what I have said myself on the frequency of primary or secondary hyperæmia of the brain and its membranes, and although the effect of opiates is apt to show itself first in cerebral congestion, I have given small doses of opium in a number of cerebral symptoms. Genuine diseases of the brain are not so very frequent, as could be supposed from the indisputable predisposition; nor are all the cerebral affections occurring in the course of the other diseases of other organs depending on considerable anatomical alterations. A number of these are really nothing but the results of cerebral irritation, which does not require, and in many in-

stances even counter-indicates, the use of antiphlogistics. This is so well known, that I feel satisfied with alluding to it. Without a correct diagnosis of the condition of the brain, opiates are not advisable; but I desire this principle not to be forgotten, that without a correct diagnosis, no powerful remedy ought to be administered; and less than any others, antiphlogistics and antiplastics, so readily resorted to in every and any cerebral complaint. The general impressibility of the nervous system in infantile age, both central and peripheric, is an undoubted fact; we observe a number of nervous symptoms in which we are unable as yet to discover any anatomical lesion, either their central or peripheric; we know even, that the majority of attacks of convulsions in infantile age are reflected, and we are therefore justified in assuming that a central organ receiving such impressions and irradiating them again to its periphery, must occasionally be in a thorough state of irritation, without intense anatomical alteration. In such cases, the diagnostical differences of which are stated by the books, I mostly rely on the use of small doses of sulphate or acetate of morphia, or codeinum.

℞.—Solut. morph., Magendie, . . gtt. v.
Aq., ... ℥j.

M. D. S.: Three or four times a day, half a tea-spoonful, to a child of half a year, or a year of age; or,

℞.—Codeine, ... gr. j.
Aq., ... ℥jβ.

M. D. S.: Half a tea-spoonful three or four times, or more.

2. *Catarrh of the Stomach and Intestines.*—There is, in the catarrhal affections of the mucous membranes generally, and especially in those of the alimentary canal, an element of much trouble and perplexity to the practitioner. I mean the intense irritation existing from the very beginning of the affection. While the majority of such cases are simple catarrh, they cannot run their course without influencing the trophic and sensory nerves, and being influenced by them. Reflected action will spring up in the muscular layers, and increased peristaltic motion is the next result. In all such cases opiates are decidedly indicated. I scarcely ever treat either an acute or chronic catarrh of the intestinal canal without opium, as the occurrence of the affection, without greatly increased motion, is not possible. At the same time, the remedy has a decided influence on the secretion of the follicles of the mucous membranes and glands generally: not directly, it is true, but by means of the brain and its peripheric nerves. I add it, usually in the form of Dover's powder, to calomel, (which I use but

exceedingly seldom, I may say scarcely ever,) subnitrate of bismuth, tannic acid, and subacetate of lead. I prefer Dover's powder, because the doses of opium must necessarily be small, and the division of the powder of opium would be rather difficult, or sometimes uncertain, and because of the, at times, desirable addition of ipecac.

℞.—Submuriat. Hydrargyr., . .	gr. iv.–vj.
Pulv. Doveri, ...	gr. iij.
Cret. præparat., . . .	ʒss.

M. f. pulv., div. in p. æq., No. xii.

D. S.: A powder every two hours, for a child from six months to a year.

℞.—Subnitrat. bismuth., . . .	gr. viij.–xij.
Pulv. Doveri, . . .	gr. iij.
Cret. præparat., . . .	ʒss.

M. f. pulv., div. in p. æq., No. xii.

D. S.: As above.

As a general rule, I never use tannic acid and subacetate of lead in recent cases of catarrh of the alimentary canal, and have not been in the habit of ever using it in affections of the stomach, (except the latter, in cases of hæmatemesis.) The cases in which I resort to it are usually those of chronic catarrh of the intestine, (tannic acid principally in that of the intest. colon,) and mostly in children a little older; in such the dose of the opium has to be increased according to circumstances.

℞.—Acid. tannic, (Subacet. plumbi,) .	gr. viij.
Opii, ...	gr. j.
Cret. præparat., ...	℈ij.

M. f. pulv., div. in p. æq., No. xvi.

D. S.: A powder every three hours, to a child of 3 or 4 years.

In fresh cases of gastro-intestinal catarrh, which have got well after a simple treatment of the first-mentioned kind, I almost always follow it up with a simple opiate, in order to counteract the irritation, which by itself is able to again give rise to a copious secretion of the mucous membranes.

℞.—Laudan. liquid., Sydenham, . .	gtt. x.
Mucil. g. arabic, ...	℥ijss.

M. D. S.: A tea-spoonful every 2–3 hours, to a child of eight months or a year.

Whenever there appears to be a necessity to apply opium to the intestinal canal locally, by means of injections, I should urge the utmost caution, and but small doses. Opium is, like quinia and some other substances, readily absorbed by the rectum, and ought not to be given in any larger daily dose than internally, provided that it is well injected and not soon ejected. DeWees may be practically right in the majority of actual cases, and taking into account the expulsive tendencies of the patient and carelessness of nurses, in recommending the triple or quadruple dose per rectum; and Beck: the double. But I again state, and lay stress on it as an indisputable experience, that opium will show its general symptoms by the same, and no larger dose, as in its internal administration; while, for instance, the subcutaneous administration of morphia, which, however, I have not resorted to in infantile practice, is more efficient and requires a smaller dose than any other mode of using it. As to opium injections, I prefer to repeat them frequently with small doses of laudanum, and to watch the effect, than to give large doses at once, which might prove dangerous or inconvenient; dangerous from its general effect, inconvenient and troublesome from the sudden suppression of local secretion.

In simple and complicated catarrh of the stomach, the administration of carbonates, or muriatic acid, or bismuth, will usually suffice. But in cases of incessant vomiting, which itself will increase the hyperæmia, and may even give rise to hæmorrhage, sedatives are necessary. Now, morphia, opium, and laudanum will sometimes produce vomiting. Extract of opium and tinct. opii camphor. are generally better tolerated, but the taste of the latter is peculiarly disagreeable to some children; besides, there are cases of irritability of the stomach in which absolutely nothing will be kept except the mildest and blandest remedy possible, besides ice. In such cases, codeinum or codeïa acts admirably in daily doses of from half a grain to a grain, according to age. I remember several cases in which nothing appeared to soothe the irritation of the muscular layer of the stomach but codeïa, and some in which I had to continue for some time to give a dose before each meal.

3. *Laryngeal Catarrh.*—In those cases of catarrhal affection of the larynx called pseudo-croup, or laryngitis spastica, I have always used opium in occasional doses with the best result, and recommended them accordingly, in a former lecture on the subject. Certainly I should not think of giving them during the attack of dyspnœa befalling children suddenly during night, and making the frightful *impression* of pseudo-membranous croup—the first and only thing to be thought of is an emetic, if anything—but the irritation and spasm attending this catarrh is best relieved by a dose of opium, given at bedtime. The

spastic affection attending a simple laryngeal catarrh illustrates exceedingly well my remarks on the irritation of the mucous membrane of the intestines. The local affection of the mucous membrane of the larynx is of very little account, and would certainly not give rise to any serious symptoms, but for the narrowness of the organ and the implication of a large number of small muscles. But, as it is, a good dose of opium is required before the time the attacks will generally occur. Dover's powder, to gr. ijss. in a single dose, given at bedtime to a child of three years of age, will generally succeed in procuring a relief from the spastic attack, and a good night's rest, and will afford time for the effect of such other measures as are deemed proper.

From some remarks made above, the selection of the opiate most appropriate in an individual case will, perhaps, not be very difficult. I therefore abstain from making any addition. At all events, but the general rules can be laid down in expositions of so general a character. I desire, however, to add a very few words on the counter-indications to the use of opiates in infantile practice. It is certainly of at least the same importance to know what remedies to avoid, than which to employ, especially when we expect to do either the right thing, and that entirely, or nothing at all.

A principal counter-indication, in my opinion, is an uncertain diagnosis. I should never propose the use of opium in a cerebral affection before I should be sure whether the case is one of simple irritation, or of congestive or inflammatory character. We must confess that many cases are not diagnosticable, with our knowledge hitherto acquired; but then we better not resort to powerful remedies, which may prove as dangerous as useful, if we do not know which. We can afford, and must be permitted to be ignorant, but we can neither afford nor be permitted to do harm. Nature will have less trouble in overcoming a disease without our support, than she can come off victorious from a fight against the disease and doctor at the same time. And there is no vigorous constitution nor a blooming life that a doctor cannot ruin and destroy, by not indicated, or contra-indicated remedies.

Hyperæmia of the brain and meninges, both active and passive, are strong contra-indications. Enough has been said of them.

Exhaustion and collapse are generally positive contra-indications to the administration of opiates. They are sedatives, and very powerful as such. Collapse and exhaustion naturally require stimulants and restoratives. In such cases, the prevailing local disease is generally of less importance in pointing out the treatment than the general condition of the patient, and such are eminently the cases which prove that the individual patient, and not an ontological disease, are the subject of treatment. If we cannot avoid the use of opiates in such cases, the greatest caution ought to be preserved; and they ought never to be resorted to without at the same time taking measures of rallying the patient. Such cases will occur in gastro-intestinal catarrh with rapid collapse, as often seen during the warm season.

The complication of severe intestinal catarrh with a pulmonary affection, particularly broncho-pneumonia, is a very serious, and sometimes fatal one. While the intestinal catarrh would probably require the use of opium, it will hardly be possible to give regular doses of this drug in this complication. I have gained the impression from what I have observed, that the oppression and dyspnœa will be aggravated by regular doses of opium in the first stage of pneumonia, and the only purpose for, and mode in, which I now give opium in cases of the above description, is an occasional dose to procure rest.

On the Therapeutical Employment of Oxide of Zinc. By S. WATERMAN, M.D.

Oxide of zinc is known to be a powerful therapeutical agent, yet its peculiar mode of action upon the human organism, and the various diseases in which it finds a rational application, are by no means yet fully understood. In the U. S. Dispensatory, the account given of this article is meagre and unsatisfactory. Some of the European Pharmacological works give a more minute description, but also without by any means exhausting the subject. I shall probably not state much that is new to *all* the readers of the MONTHLY, but from the observations which I have had the opportunity of making, I feel called upon to direct the attention of the profession to this medicine.

Oxide of zinc exerts a powerful sedative or soothing influence over the brain and the ganglionic nerves. Whether this influence is produced by direct action of the zinc upon the brain; whether it acts by a sort of revulsive influence, by transferring cerebral irritation to the plexus of the stomach, it is not possible as yet to tell. Its operations seem to be exceedingly mild, and free from after effects, such as are observed after the use of opium, and the kindred narcotics. In all cases where these narcotics are contra-indicated in diseases of the brain, zinc may be given, and in many of these cases its effects are positive and lasting; so that I have often considered it worthy of the title of "the opium of the brain." Its ability to soothe vascular excitement dependent upon cerebral and nervous irritation cannot well be doubted; whilst it possesses equal power to allay and calm the irritation of the brain and ganglionic nerves, unaccompanied by inflammatory action of these tissues.

It has proved itself useful to a limited extent, also, in inflammation of the brain and its membranes, but in a manner less marked and positive; and I think it, therefore, less worthy of confidence in these diseases.

From its action as described above, it is rational to expect beneficial results from its exhibition in the following diseases; and these expectations are borne out by actual trial and observation:

1. In *Delirium Tremens.* Indeed, when all other remedies seemed to fail, when opium and its kindred narcotics had been unable to make any impression, and a fatal issue seemed unavoidable, oxide of zinc has in several instances rendered me such signal service, as fully to justify the confidence I feel in its therapeutical power. It need not be given in large doses even here; two to three grains every two hours are sufficient. It may be combined, if necessary, with opium or other remedial agents; and its use should be continued for some time even after the delirium has been overcome.

2. In *Eclampsia Infantilis*, after the fits have been broken by the free use of chloroform, zinc will be found a very serviceable agent to control the cerebral and nervous agitation, which almost always still harasses the little patient for a short time. I have often combined oxide of zinc, in grain doses, with calomel, digitalis, and pulv. scillæ. Its effects have been thus most gratifying, and the impartial practitioner can certainly readily verify the truth of the observation. As in the former disease, its use ought to be continued after the convulsions themselves have disappeared.

3. In the *Eclampsia* happening during pregnancy or labor, or menstrual irregularities, oxide of zinc acts beneficially upon the sensorium, with or without the administration, at the same time, of opium and calomel; especially in those cases where the convulsions originate from a high state of nervous sensibility, as is the case in subjects to hysteria, in its various forms. After the employment of chloroform, zinc will be found to exert its sedative influence in a most positive manner. I have given two to three grains per dose, every two hours, and would not advise a larger dose. In convulsions produced by plethoric habits, its effects are less reliable; whilst in convulsions arising from uræmic toxication, its effects have not been sufficiently tried to warrant any positive statement in its favor.

4. It will be found a most reliable agent in the various forms of *hysteric convulsions*, depending, as they do in most cases, upon inordinate action of the nerves and their centres. It is in these cases that its influence over the plexus of the stomach is most strikingly verified.

5. In the *exanthematic diseases*, when the eruption is accompanied by cerebral irritation, and even by convulsions, oxide of zinc has long been known to exert a soothing effect upon the nervous centres, and has been used by the most experienced European practitioners.

6. I have treated a few cases of *epilepsy* and a few cases of *chorea* with zinc. I have not had sufficient opportunity to watch its influence, but believe it to be, as stated by various practitioners, from time to time, for more than half a century, a very efficacious remedy in some cases; more especially, it is true, of chorea than of epilepsy.

7. European writers recommend it as an excellent remedy in asthmatic difficulties and whooping-cough; but I have no experience to offer on this head, nor on the three following.

8. In England and in this country it has been very highly extolled against the night-sweats of phthisis, and as useful in all cases of profuse perspiration.

9. It has also been well recommended against worms, and still more against chronic dysentery.

10. To complete the list, I must yet mention that it is reported to have cured some of the most obstinate cases of intermittent fever.

The external use of oxide of zinc—unsurpassable in its satisfactory results, as it sometimes is—seems to be well enough understood by the profession generally.

In the estimate I have placed on the oxide of zinc, I have relied strictly on the results of my own practice. I have the notes of a number of cases in point, which I withhold from publication, only not to increase the length of this article; and I urge on all physicians to contribute their quota to our knowledge on the subject, to the end that its physiological effects and therapeutical uses can at last be definitely determined.

Epicanthus and Epiblepharon. By Dr. F. A. Von Ammon. (Translated and condensed from the *Journal für Kinderkrankheiten*, by C. A. Hartmann, M.D., Cleveland, Ohio.)

The author was the first who described, in 1831, epicanthus as a peculiar condition of the eyelids—it had been previously merely noticed by Dr. Schoen—and proposed, also, an operation for its cure. The progress science has since been making, and a large number of new observations, render at this time a new exposition indispensable.

Definition of Epicanthus.—With advancing age, the integument of the orbital region shows many alterations in its folds. One almost stereotype formation of this kind occurs near the external canthus of the eye: arising above the tarsal fold, it passes over the upper lid, and covers the canthus completely. This form is here excluded, as well as the symptomatic variety which accompanies many diseases of the parts contained in the orbit. Nor does the oblique direction of the palpebral fissure claim our notice in connection with this subject.

Epicanthus is a congenital deformity of the integument which covers the root of the nose. When well developed, it appears as a falciform prolongation of the skin, extending from the palpebral integument, between tarsus and eyebrow, over the inner angle of the eye, down to the region of the lachrymal caruncle, and usually even below that organ. Cornea, iris, and pupil may be concealed under this fold. Its concave external edge varies in thickness. The part of the skin lying between the two semilunar folds—if the affection is bilateral—is occasionally very broad.

Small formations of this kind are constantly overlooked. Even well developed, they differ in length, as this depends, for the most part, on the varying starting-point.

VARIETIES OF EPICANTHUS.

1. *Bilateral Supraciliary Epicanthus.*—Originates from the eyebrows, terminates in the integument, either near the lachrymal canal, or by the side of the nose; thus forming the caruncular and nasal sub-varieties.

2. *Palpebral Epicanthus.*—The fold arises from the skin of the upper eyelid, between the tarsal fold and the concave part of the eyebrow; thence it stretches down, with a broad curvature, to the lower margin of the orbit. Usually this form is bilateral, but occasionally it occurs only on one side. It is the most striking as well as the most complete form, and may therefore be considered typical.

3. *Tarsal Epicanthus.*—Mostly small folds, arising from the tarsal fold of the upper eyelid, and running irregularly, either along the lower orbital margin, or to the inner canthus, or just below it. In such cases, the tendo oculi muscle is not seldom well marked, and a line may be found running from its insertion downward and inward.

4. *External Epicanthus,* described by Sichel and Chevillon. Very rare. The fold runs across the zygomatic process towards the supraciliary arch, forming, with the latter, the figure of T. I have seen one unilateral case; that of Sichel was bilateral. Pilz mistook this deformity for congenital blepharophimosis.

Epicanthus on one side is an exception to the rule; usually both sides are affected, and the folds are mostly of equal size; sometimes there is a greater curvature on one side, and there may be a great difference in the size and extent of the two folds.

Complications of Epicanthus.—A hyperæmic condition of the conjunctiva, which may run into chronic inflammation, with granulations or tumefaction, especially in scrofulous children during dentition. Convergent strabismus, blepharoptosis, whitish discoloration (leucosis) of the eyebrows and eyelashes, etc. The diagnosis of complicated cases is not without difficulty.

Epiblepharon.—Although not unfrequently associated with epicanthus, this deformity also occurs independently. Falling of the eyelid (blepharoplegia) is a wrong name, the deformity consisting in a prolongation of the integument on the upper eyelid, with apparent lowering of the same, but without any paralytic combination. It is usually bilateral, and conceals the outer canthus of the eye more or less. Blepharophimosis may exist at the same time.

The difference between epiblepharon and epicanthus is merely local. Sometimes the fold has an œdematous or congested appearance. Congestions to the head may lead to extravasation behind it, thus forming the *hæmotoblepharon.*

Adults have the epiblepharon more frequently than children. It is easily mistaken for œdema of the lid. Its shape and color have been found not to change in twenty-five years. Congenital abnormities of the eyebrows are occasional complications. Orbital hygroma may simulate the epiblepharon.

The impression created by a well-developed epicanthus is very disagreeable and perplexing. An exhausting description of it in a few words is impossible.

Origin of Epicanthus.—An hereditary influence (considered by Vallez as the principal cause) is not evident. Lower degrees of tarsal epicanthus seem to be sometimes due to that influence, combined with some dyscrasia, or a decreased vitality consequent thereon. The primary cause is generally either a superfluous quantity of integument between the eyes, or a deficient formation of the bones, the ethmoid in particular, resulting in a too flat condition of the root of the nose, which prevents the extension of the fœtal folds of the skin in that place. In the fourth month of fœtal life there are always well-marked epicanthus folds on both sides. The smaller folds, due to superfluous integument, represent the condition existing in the seventh and eighth months of gestation.

Unilateral epicanthus arises from the same causes, operating only on one side of the face. In all the cases observed, nothing but the soft parts were implicated in the malformation.

Epicanthus considered as a Peculiarity of Human Tribes.—General statistical researches are wanting. Sichel thinks the deformity must be of frequent occurrence in the Mongolian race, on account of the more flattened nasal bones. But the Hottentots and other African tribes, with hardly any elevation for the nose, furnish no evidence for this hypothesis. Other observations show that a flat nose and epicanthus may exist together; this is no proof, however, that one causes the other, for a flattened condition of the bones between the orbits is peculiar to all infantile heads. In no description of voyages among the American Indians, Japanese, Chinese, Russians, Africans, and other Mongolian tribes, is the existence of epicanthus mentioned. Von Siebold alone reports the frequent occurrence of it among the Chinese, Japanese, Esquimaux, and others. According to him, the depressed root of the nose renders part of the integument between the eyes superfluous; the prominent malar bones stretch that relaxed part of the skin, thus forming tarsal epicanthus, which draws the lid downward, narrows the palpebral fissure, and produces the apparent oblique direction of the same. Sichel's opinion is only in part confirmed by this statement.

Epicanthus proper cannot, therefore, be pronounced a peculiarity of human tribes or races, but is of a pathological character.

Epicanthis, or Acquired Epicanthus.—Epicanthus-like folds around the root of the nose, but formed during life. The surface of the folds always presents some morbid appearance, and they do not resemble each other. It is a transient affection, when resulting from inflammation, but stationary when dependent upon metamorphosis of the skin by small-pox, herpes, burns, erysipelas, scrofulosis, syphilis.

Acute inflammatory epicanthis following conjunctivitis is rather symptomatic than an independent affection. In chronic scrofulous ophthalmia, where light cannot be borne and the patients lie for months on their face, infiltration and inflammatory irritation of the subcutaneous cellular tissue around the root of the nose may lead to the formation of obstinate epicanthis. Keloid, especially in aged persons laboring under some dyscrasia, produces a similar defect; so does variola frequently in scrofulous individuals. Often-recurring erysipelatous affections of the skin near the eyes, and burns, followed by ulceration, are apt to leave the same deformity. Chemical explosions, (excepting gunpowder,) melted metal, corroding acids, have the same effect. Whenever, therefore, in lesions of this kind, a long-continued occlusion of the eyelids, with inactivity of the frontal and supraciliary muscles, appears unavoidable, it is very important to keep the patients in a dark room, and have them exercise all the muscles referred to. If not entirely prevented, the formation of epicanthis is in this way at least retarded.

When produced by syphilis, epicanthis is always complicated with deep disorganization of the integument; when the result of scrofulosis, with morbid changes of the neighboring bones. Incurable cases arise from wounds in the face and on the head, with separation of the soft parts from the bones.

A mostly unilateral form of epicanthis results from inflammation and atrophy of the tarsal cartilage, the skin becoming adherent to the orbital margin, and presenting there a deep furrow. In a similar manner caries of the lachrymal bones of long standing may give rise to a very discouraging inflammatory epicanthis.

Hydrophthalmus, and other affections protruding the eyeball, cause very prominent bilateral folds. In a slight degree only the same formation appears in diseases of the lachrymal sac, with considerable extension.

The operative treatment of epicanthis varies according to the seat, size, and shape of it. General rules cannot be given. Almost every case requires a method of its own. Even with the best skill, all the difficulties presenting themselves are not always surmounted.

Treatment of Epicanthus, Rhinoraphy, and Blepharectomy.—Congenital epicanthus disappears, as Sichel has correctly stated, with increasing age. Proper manipulations (raising of a perpendicular fold over the root of the nose, either with the fingers, or by means of a small forceps, and drawing down of other parts,) may therefore materially assist in the removal of the deformity. This mechanical treatment, however, is only applicable to light cases.

The operation of Von Graefe is of no lasting benefit: excision with the scissors of a wedge-shaped piece of the fold. Simple incision is also insufficient. The proper treatment is the excision of so much of the integument on the dorsum of the nose, that in uniting the wound the deformity disappears—rhinoraphy is a better name for this operation than rhinotomy. Soon after birth the operation is seldom called for, except in cases bordering on monstrosity, or complicated with epiblepharon, blepharophimosis, and strabismus. As Vallez observed, epicanthus often disappears spontaneously, or grows at least considerably smaller about the sixth year of age.

In the performance of rhinoraphy, the integument covering the root of the nose is raised, by means of a common entropium forceps, so that all the appearance of folds is removed. A mark with ink around the points of the forceps shows, after the removal of the latter, to what extent the excision should go. A piece of adhesive plaster, exactly corresponding in size to the marked part of the skin, is put on, and then the skin divided and detached from the periosteum by means of a small scalpel. A copious hæmorrhage usually follows. Protruding adipose tissue must be removed. The wound is united by Dieffenbach's needle-suture. Cold fomentations suffice to reduce the traumatic reaction which follows.

The epiblepharon—*ptosis atonica adiposa* of Sichel—is cured by removing the superfluous portion of the integument, either by excision—blepharectomy—or by ligaturing successive portions of the skin. This should not be done sooner than some months subsequently to the performance of rhinoraphy.

Strabismus, as a complication of epicanthus, always yields more or less after the operation of the latter, without further interference. Where necessary, the operation for strabismus must always be preceded by rhinoraphy.

Blepharophimosis never requires a separate treatment, beyond manipulations; it usually disappears gradually after removal of the epicanthus.

Ozonometric Observations. By Dr. THIRION. (Translated from the French.) With Remarks by L. H. S.

The *Gazette des Hôpitaux* publishes a *résumé* of 116 ozonometric observations made at different periods—12 from August 19, 1860, to August 31st; 26 in September; 32 in December; 30 in January, 1861, and 16 in February. The ozonometric paper had a northern exposure, about three metres from the surface, with proper precautions as to the influence of sun, rain, &c. The experiments were made at six or seven o'clock in the morning, and six o'clock in the evening. Of these 116 observations, 82 furnished reactions, and 34 were without reaction. The periods when the presence of ozone was manifested were, in the order of their frequence, as follows: December, 29 successful indications in 32 experiments; September, 17 in 26; January, 16 in 30; February, 11 in 16; August, 9 in 12.

If we look at the actual influence of the direction of the wind and the condition of the sky on the ozone, we shall find that ozone was furnished in 42 experiments by winds coming from the west, northwest and southwest; and in 40 experiments by winds from the east, southeast, south, north and northeast. In the 34 experiments which furnished no indications of ozone, the winds were from the south, southeast, north, northeast, west and southwest.

Rain or snow are the only conditions of the atmosphere which have had, according to these observations, any certain action on the production of ozone, particularly on its intensity. The presence of ozone has been detected at thermometric ranges from 23½° to —11°5 C.; and at mean temperatures from 15°9 to 9°9 C. The intensity of this agent is better manifested when the mercury is rising in the thermometer, than when falling.

Variable quantities of ozone have been detected in the atmosphere from a barometric column of 736.40 mm., up to 769.44 mm.; but the strongest indications have been obtained with a column oscillating from 746.68 mm. to 760.23 mm.

To complete this *résumé*, it remains for us to examine the relations which may exist between the presence or absence of atmospheric ozone and the diseases which we have observed. When ozone was present in large quantities, that is, when the darkest colors were produced, tonsillar anginas, catarrhal bronchitis, pleurisies and pneumonias prevailed; when there was a deficiency of ozone, or when it was present but in feeble quantity, gastric troubles, colics, diarrhœas, dysenterics, &c., prevailed. Doubtless the diseases just designated arise from other causes, such as temperature, sudden changes, moisture, defective food, &c., but it is remarkable that their manifestation coincides precisely with the intensity or absence of ozone.—*Gazette des Hôpitaux.*

In a paper published in this journal (March, 1858,) reviewing Scoutetten's admirable treatise on ozone, we endeavored to show how active an agent it seemed to be in the production of disease. The classes of disease produced by an abundance of the agent, as well as by a deficiency, were then noticed, and they agree precisely with those given by Dr. Thirion. Very little attention has been paid to this subject in our country, but the present seems to be a favorable time for experiments on a large scale. Our camps are exposed to different conditions of temperature and moisture, and ozonometric observations made at the same, if tabulated along with the prevailing diseases, would furnish the medical profession with much data for the formation of a correct judgment as to the real connection between ozone and disease.

Scoutetten showed that "oxydizable miasmatic materials are destroyed by ozone, while in their turn they destroy it." Now, as the presence of an atmosphere saturated with the gaseous products of exposed excrement is believed to be favorable to the production of dysentery and diarrhœa of a typhoid character, as well as of typhoid fever itself, we should expect to find the atmosphere of camps, where no care was taken in the preparation of sinks, and where typhoid diseases were prevalent, devoid of ozone, or at least only slightly provided with this agent. This point could be readily established by the employment of suitable ozonometric observations at different points in our camps and military hospitals. The observations made by Scoutetten at the Military Hospital at Metz could thus be verified by our own surgeons.

The ozonometric paper is prepared by taking glazed letter paper and soaking it for twelve hours in a solution of iodide of potassium, (one part, by weight, to one hundred of water.) This paper is then to be cut into bands, one inch wide, a noose of thread is to be fastened at each end, and the paper is then to be drawn through a mixture prepared as follows: "From 100 to 200 grammes of distilled water are employed as the solvent of one gramme of iodide of potassium; ten grammes of pulverized starch are then added, and the mixture of the solution with the starch is effected by stirring with a glass rod. The mixture, in a porcelain capsule, is then placed on a slow fire and stirred until it assumes the characteristics of liquid glue." The paper, after being drawn through the mixture, "should be drawn between two glass rods, held slightly separate, so as to remove the superfluous material, and be dried on glass rods in an apartment perfectly free from dust. The paper should be preserved in a box or air-tight jar. When thus preserved, it is not injured by age, unless the starch should scale and fall off."

"Paper thus prepared, when exposed to an ozonic atmosphere, soon shows an alteration of color, becoming first yellow, then acquiring a darker shade, until finally, if there be much moisture in the air, it becomes blue. Circumstances may arise, in a dry atmosphere, when it will be necessary, after the paper has been exposed for some time, to immerse it in distilled water before the coloration will be produced. The color produced arises from the oxydation of the potassium by the ozone; the iodine, being set free, at once forms the iodide of starch. When the paper is dry, the color fades, owing to the evaporation of the iodine, but it may be restored again by immersing it in water. In order to demonstrate the quantity of ozone in the atmosphere, Schœnbein has prepared a scale of eleven colors, ranging from 0 to 10, from a white to a bluish purple, which he calls an *Ozonometer*. By comparing the discoloration undergone by the exposed paper with this scale, he obtains the *ozonic* capacity of the atmosphere."

Transactions of the Medical Society of the County of Kings.

DECEMBER, 1860.

DR. BELL reported an unusual prevalence of diphtheria in his practice within the last month, and in localities different from those which have heretofore seemed to predispose to this disease. Of the whole number reported, (twelve,) two were fatal. The first of these was an infant seven weeks old; it died on the fifth day of the disease. The first symptom noticed in this case was a thick mucous discharge from the nostrils, but not such as—for the first twenty-four hours, at least—to distinguish it from an ordinary catarrh. Two days after this it was covered with an eruption of roseola. During the night after third day diphtheria was first clearly indicated by the odor of the child's breath. On examination, false membrane was discovered on the posterior wall of the fauces and anterior palate, apparently extending into the posterior nares. From this time the child had great and increasing dyspnœa up to the time of its death by suffocation. The treatment was by chlorate of potash, quinine and wine; none of which appeared to have any effect on the disease.

The other fatal case was a child nineteen months old, which was taken simultaneously with two other older children in the same family, five days after the occurrence of the first case. This case was complicated with scarlatina; the diphtheria, however, predominated, and was evidently the fatal disease. There was a peculiarity about this, in that the first evidence of sickness was declared by an erysipelatous inflammation of the forearm, following a slight scratch from a pin, two days before there were any symptoms of diphtheria. This inflammation quickly yielded to appropriate treatment, and was followed by diphtheria, ushered in by vomiting and diarrhœa. The membrane first appeared on the tonsils, then in succession on the posterior wall of the fauces, anterior palate and nares. Two days after the appearance of the diphtheritic deposits, the rash of scarlatina appeared. This case was from the first characterized with great heat of surface and frequent pulse. The whole mouth, notrils, and fauces became lined with membrane. The disease reached its height on the fifteenth day, and from that time the membrane softened, and was thrown off in large quantities, a good deal being swallowed. A good deal was also removed twice daily by means of a probang, first dipped in a glycerine solution of tannin, and by syringing the nostrils with a solution of chlorate of potash.

This child's appetite kept up remarkably well under the citrate of quinine and iron, and wine, and gave strong hopes of ultimate recovery until about forty-eight hours previous to its death, when it seemed to die of exhaustion, the membrane having ceased to appear, and the fever subsided. Of the seven cases occurring in this family, six were children, and one an old lady. It commenced severely in a child aged six years, which had scarlatina two years ago. All the others had had scarlatina, except the fatal case in which that disease occurred in conjunction with diphtheria. Of the other family, (of three children,) none of them had ever had scarlatina. The eldest child, aged eight, was taken first with such symptoms as usually usher in scarlatina. Within thirty-six hours the parotid and submaxillary glands were so much swollen, and so tender, that the child was compelled to lie with his head bent back in a very painful position. By the end of the fourth day, the efflorescence of scarlatina covered the whole surface of the body, accompanied by high febrile symptoms, restlessness and delirium. But the throat, instead of being red, began now to be covered with a membrane, which, in the course of the next three days, completely covered the fauces, and lined the mouth and nares. The membrane softened and began to come off on the seventh day after its first appearance.

As fast as it became detached it was carefully removed by means of a probang, first dipped in a solution of tannin, as in the first case. But notwithstanding that this was done with great ease, there was on several occasions a good deal of bleeding from the raw surface, and some re-formation of the membrane. This state of things continued two weeks; during the whole of which time his system was in a highly febrile state, such as usually accompanies a bad case of uncomplicated scarlatina; meanwhile there was almost complete loss of voice. After the membrane ceased to appear the febrile symptoms gradually subsided, and the glandular swellings about the jaws to grow less tender. Within the last week, however, one of the swellings at the angle of the right lower jaw has suppurated; has been lanced, and discharges freely. The child has a good appetite, and will probably recover. The two other cases in this family occurred, one on the fifth and the other on the sixth day after the first case. These had diphtheria only, of a mild type. The treatment of these cases has been by chlorate of potash, quinia, iron and wine, with as much food as the patients could be induced to take. Dr. Bell further stated, in reference to the occurrence of diphtheria and scarlatina at the same time in the same patient, the circumstances appeared to be accidental; that he did not consider that there was any connection of these two diseases, though they appeared to be analogous in their cause and duration.

Dr. Enos inquired whether there appeared to be paralysis of the muscles of deglutition in any of the cases referred to; whether there was a regurgitation of fluids through the nostrils on attempting to swallow ?

Dr. Bell replied that there had been regurgitation, but that he attributed it to the great amount of deposits in the throat, and not to paralysis. He had had cases of paralysis which seemed to follow, rather than to be associated with, diphtheria.

Dr. Enos referred to a case in his practice of incomplete paralysis of the muscles of the throat; when the patient at times was able to swallow with comparative ease, but at other times he swallowed with very great difficulty. In another case there was paralysis of the lower extremities, which came on during the course of the disease, and continued several months. He has recently had a case complicated with urticaria and persistent vomiting, which proved fatal.

Dr. Bell inquired as to heat of skin in this case; it was not present; and remarked that it was not present in those cases simply accompanied by scarlet rash.

Dr. Bell inquired for the experience of the members present as to the recurrence of diphtheria in the same patient.

None present knew of any case of second attack.

Of its contagiousness ? Dr. Enos stated that he had seen nothing that looked that way. All his cases had occurred in separate families, although in some there were several children who were freely exposed without contracting the disease. He thinks it due to meteoriceous causes.

Dr. Minor referred to a monograph which takes strong ground as to its contagiousness, citing cases confirmatory of the opinion.

Dr. Mitchell believes it to be analogous in its course and duration with scarlatina, but perfectly distinct from that disease. He is inclined to the opinion, however, that it is not contagious; most of the instances which appear to indicate contagiousness being such as would prove influenza contagious, while the other class of instances are too few to justify a decision.

Dr. Mitchell stated, in reference to the treatment of diphtheria, he had recently almost exclusively used *common salt* as a gargle. It acted so well that he has had no further trouble after prescribing it; it seeming to act with as much certainty as quinine in intermittent. He added, however, that he had not had a severe case since adopting this treatment.

Dr. Bell regards it as contagious. He once thought it infectious only, but subsequent observation has led him to think that its first appearance and continuance in particular places are characteristics equally applicable to small-pox and other contagious diseases, which, though contagious, may in the first place arise from endemic causes.

Dr. Ball said that his cases during the month had been various and interesting. He had seen one very interesting case of diphtheria in a boy of seventeen. His treatment is not to stimulate in early stages of disease, but gives calomel in small and repeated dose, combined with antimonial powder and nitrate of potash as an antiplastic, as soon as formation of membrane is arrested, then gives Dover's powder as sedative, quinia and stimulants. Stimulants he thinks *very unsafe* in the early stages of the disease; has had about sixty cases within two years; treats it on same principle as membranous croup.

Dr. Heuser remarked that most persons feared to give calomel, on account of the tendency of disease to dissolution of the plasticity of the blood and impaired vital force. Some of Dr. B's cases have been very bad, with the membrane covering the throat and the external (?) meatus of ear. Has had one fatal case complicated with scarlatina.

The urine was not examined in this case.

Dr. Heuser said that the urine in diphtheria was generally albuminous. The proclivity to bleeding at nose and general asthenic appearances, Dr. H. thinks, contra-indicate mercury. Children are not very susceptible to salivation.

DR. BALL said that it was the disease that depreciates the quality of blood, and not a poor state of blood that caused the disease.

DR. HEUSER differs from this. He has seen petechia and vibices in diphtheria, and thinks the disease depends on impoverished state of blood. Dr. H. thinks that the blood of diphtheritic patients is wanting in oxygen, and requires medicines that contain that gas, as chlorate of potassa and muriatic acid.

DR. BALL related a case of scarlatina maligna in a girl five years old, complicated with diphtheria. Saw the case the second day; pulse 160; skin very hot; child very restless. Gave six grains of calomel, with pulv. antimon., and potass. nitrat. In two days the membrane disappeared.

DR. WILLIAMS had seen a case of casts of urinary tubes and albuminous urine in a case of diphtheria that terminated fatally.

DR. HART has adopted the same plan as Dr. Ball; thinks that all cases of diphtheria commence with an inflammatory condition, and also uses topical applications.

DR. HART has had during the month scarlatina and diphtheria, and swelling of tonsils, without the specific membrane, but with difficulty of deglutition.

Ulceration of the Large Intestine. Reported by DR. ENOS.

Mr. S., æt. 50. An active business man; a builder, of good habits. Began to feel ill in March, '59. Had drank freely since February of Ridgewood water, supplied through new leaden pipes. He had for several years been troubled a little with constipation and the piles. To relieve these, he had been in the habit of using a cold-water injection every morning. In March he became very thirsty, and complained of nocturnal cramps in the calves of his legs, so severe as to cause him to wake and spring out of bed. They would soon subside. Not long after he began to throw up his breakfast, and soon after this to vomit as soon as he raised his head from the pillow. He would go about his business, and at 5 P. M. eat a good dinner and retain it.

On the 18th of June he ate a hearty dinner and vomited soon after severely, and had pain in the bowels; forty drops of laudanum were injected, with a little water, into the rectum. He slept some that night; vomited a little; bowels soft, and *not tender*. Nothing abnormal could be found in the abdomen by careful examination. 20th, vomited some; took twelve grs. calomel at night, and a Seidlitz powder in the morning of the 21st. Operated well; stools dark; the pulse much better. On the 23d vomited seven times, and had five passages, somewhat bloody; blood florid; no tenesmus. What he vomited was at first green, and then dark-brown, of an acid reaction; and with the microscope were seen blood-discs and epithelium. Effervescing powders with excess of soda agreed well with the stomach; allayed the vomiting much. An opiate suppository controlled the bowels, so that he had but one or two passages a day, always colored with blood. Blister applied to the epigastrium; beef-tea and wine whey allowed in small quantities, with ice; pulse not much accelerated; regular; no pain on pressure over the stomach or bowels; urine normal; the tongue most of the time dry; at first white and moist, then brownish; mind wandering for the last few days of his life; the catheter had to be used several times. He continued thus to vomit occasionally, but not often, when but a table-spoonful or two of milk punch was given every half hour with a lump of ice, and only one or two small movements of the bowels daily; each dark and bloody. But he gradually sank; his pulse growing weaker, faster, and more irregular; his extremities cooler, and bathed in perspiration; his mind more wandering and sleepless; and he calmly and quietly passed away on the 2d of July, just three weeks from the severe attack.

Post-mortem.—Three or four ounces of serum were found in the ventricles and around the brain; no inflammation of the brain or meninges. Stomach very thin, and contained a dark fluid; its coats and vessels of a darkish hue. The mucous membrane of the ilium red, and congested. But the great lesion was in the large intestine. Chronic ulceration—probably first induced by constipation—commenced in the cœcum and ascending colon—in one place of an inch in length. The mucous membrane of the entire circumference of the bowel was gone, leaving a thick and whitish ulceration. The whole of this (large) intestine was of a slate color, from melæna deposits. Transverse ulcerations following the folds of mucous membrane were seen in the ascending and transverse colon, and little patches of ulcers here and there, as large as a five or ten cent piece, throughout the length of this bowel. Kidney somewhat granular, as if about to go into fatty degeneration. Liver and pancreas healthy.

Five Cases of Congenital Malformation, or Monstrosity. Reported by Dr. SAMUEL HART.

A departure from the normal standard in form and figure has been occasionally met with, from the time our profession has been cultivated by those who sought the true operations of Nature's laws, and critically watched and studied the functions of animal and organic life.

Although these were usually performed in their highest perfection, Nature has sometimes manifested strange freaks in her operations, as if to demonstrate how far she could vary from those inherent principles which should control her movements, and exhibit the wildest vagaries.

I propose to present you this evening, gentlemen, with several cases of monstrosity, which have passed under my own observation, which interested me much at the time of their occurrence; and as they affect the fairest and most interesting class of our patients, and at times cost them much mental anxiety, if not agony, we cannot fail, and ought not to fail, to feel their influence.

1. May 10th, 1837, Mr. S. consulted me at my office respecting Mrs. S., then near, I think, her third confinement, and stated that she complained of extreme abdominal distention, which was so great as to render her situation quite distressing. As no relief could be obtained from this prior to delivery, I merely prescribed some trifling remedy, to amuse, and, if possible, to divert her mind from this annoying condition. Mrs. S. had never been my patient before, had recently removed from the country into our city, and had experienced no trouble of this kind in either of her former pregnancies.

In the afternoon of the 12th I was requested to visit her in haste, as she was represented as being in great distress. I was soon seated by her bedside, and found the vagina filled and distended by an enormous bag of waters, extending to the external labia. I at once ruptured the membranes, which was followed by a flow of waters such as I had never met with before, and which compelled me to turn aside to escape the thorough drenching I should otherwise have received. So great was the quantity, and so persistent the flow, that one of the attendants placed a bucket to receive it, which caught more than a gallon, and it seemed a moderate estimate that an equal amount had already flowed upon the carpet. This discharge of waters immediately relieved this, to me, extraordinary abdominal distention. I have spoken thus particularly of this unusual amount of waters, for an object which will appear in the course of this paper. Then turning to my patient, the os uteri was found fully dilated, but the presenting part could not be satisfactorily determined. It seemed to the touch to resemble somewhat the bones of the head, but unlike that usually presenting; and passing the finger over the whole surface, there was a spot extending horizontally as far as could be reached, resembling the feel of ecchymosis, and a moderate pressure revealed fragments of bone beneath, which were loose and movable. In this stage of the labor, the true character of the presentation could not be ascertained, but further progress rendered it evident that a head was approaching delivery, with the face in the perineum, and the occiput to the pubis, the top of the head coming down. The uterine contractions were vigorous and expulsive, and there was thrown into my hands, with almost spasmodic force, an object sad to view, when regarded to be of human origin. Life appeared extinct, and no effort at resuscitation was attempted.

The child was small, a female, born at the full period, and probably less than three pounds in weight. But so great was the anxiety to conceal it from view, that I was not permitted to ascertain this, or make an anatomical examination.

The head quite strongly resembled that of the cat in form and feature; the eyes, nose, and mouth were wholly feline, but the ears were human. The neck was entirely wanting; the head placed midway between the shoulders; the occiput being on a horizontal line with the spine. Upon the top of the head, at a right angle to the sagittal suture, over the whole extent of the parietal bones to their attachments, to the temporal, about the width of two inches, was presented an appearance like that produced by a severe blow with a solid instrument. (This was the part that, during labor, presented to the touch the feel like ecchymosis. It resembled a bruised, gory mass of cuticular tissue, and the parietal bones beneath were in several fragments; whether originally so formed, I deem human ken incompetent with certainty to determine. The little hair there was upon the head was human. The trunk of the body, the upper and lower extremities, were human and perfect.

Nothing was said in the presence of the mother at this time respecting her monstrous progeny; it was, immediately upon its birth, wrapped in a blanket and taken to another room, where I made the examination and discovered the phenomena described above.

The day following this lady herself stated to me the following particulars: About four and a half months previous to her delivery, while residing in the country, a young cat came to her house and greatly annoyed her; it kept constantly at her feet mewing piteously, which an abundant supply of food had no influence to check. Supposing it to belong to a neighbor at a little distance, it was taken there, but immediately returned. It proved so distressing to her, she said to her husband, "I wish you would kill it," and, to use her own expression, "he dashed out its brains against a stone." She heard the blow, but did not see it; she was not disturbed at the killing of the cat;

the annoyance it had caused her entirely ceased, and she thought no more of it; and when informed of the resemblance of her offspring to a cat, this circumstance did not at first occur to her. Mr. S. remarked to me the appearance upon the head of the child, both in locality and resemblance, perfectly corresponding with that of the cat, produced by the blow which destroyed its life. Mrs. S. got up well, and her previous and subsequent children were in every respect perfect in form.

2. The next case occurred in the evening of April 8th, 1843. This case much resembled the above; was a first confinement, was accompanied with a like quantity of waters, and the same uncertainty of the part presenting; although, with the above case in view, little annoyance was felt, and it was followed with a like result. The child was dead. The head was decidedly feline, though not so strikingly marked as the preceding. It presented the same bruised, gory appearance of the tissues over the parietal bones, which were whole, and not in fragments. The child was a female, a little smaller than the other, and was born at the seventh month.

In this case the ears, the trunk, and the upper and the lower extremities were natural. The form of the head and the face feline.

This lady informed me she had been occasionally annoyed by a cat coming in her way during her pregnancy, but not often. She likewise remarked that the cat was always peculiarly hateful and offensive to her. She recovered well.

She subsequently removed from our city, and I learned gave birth to two other children, which were perfect.

3. On the morning of September 18th, 1845, I was requested to attend Mrs. B., with whom I was unacquainted, and found her in labor, I believe with her third child, and expressing much anxiety about the life and health of her expected offspring, as she had lost her previous children. The waters soon came away, and in quantity not less than in the preceding cases. My former experience led me to look for a deformity of some sort; nor was I disappointed. The presentation was more perplexing than either of the other two. The part first reached exhibited a blunt-pointed, soft, spongy feel, which, as the labor advanced, became broader, and rested on a hard, bony substance, which I had little doubt, from former experience, was the parietal bones of the cranium; and my expectation proved correct. The delivery was soon and favorably accomplished. The child was stillborn and small, of probably less than three pounds weight. The contour of the head, the eyes, nose, mouth and forehead, were decidedly

feline; there was scarcely any neck; the ears and the rest of the body were natural. Directly over the sagittal suture, midway between the coronal and lambdoidal sutures, was a cone resembling ecchymosed substance, about an inch and a half at the base, and elevated about an inch and a half above the cranium. The child was a female, and born at the full period.

This lady informed me that she could assign no cause for the deformity of her child; she had experienced no annoyance from any source, had received no fright, or entertained any impressions or solicitudes with regard to the perfect form of her offspring, but had felt much anxiety for its life and health, as she had lost her previous children.

She made a good recovery; I am ignorant of her subsequent history.

4. The fourth case occurred September 17th, 1849. It was a first child, born at the seventh month, and still-born. The face, eyes, nose, mouth, and forehead decidedly resembling the cat, but there was no bruised appearance about the head; the ears and the rest of the body were perfect. The child was a female, small, and born before my arrival. I was told that the quantity of waters was so great as perfectly to drench the carpet.

This lady was young and diffident, and an entire stranger to me at this time, and I could not ascertain from her or her friends whether she had been disturbed by any troublesome impressions or annoyances during the period of gestation. I afterwards attended her at the birth of two other children, both of which were perfect in form, and healthy. She got up well.

5. The last case, gentlemen, which I shall present to you, and the last of the kind I have had the misfortune to meet with, occurred on the morning of February 1st, 1855. It was a fourth labor, and at the full period. Uterine contractions were soon well established, and taking a seat by my patient, the membranes were found protruding and distending the vagina; they were at once ruptured, and a flood of waters followed as in the preceding cases. But by this time I had become so accustomed to these phenomena, that they ceased to disturb my equanimity, but seemed like old familiar acquaintances. The presentation was puzzling and uncertain, exhibiting to the touch quite a different sensation from either of the other cases. From the extensive smooth, flat, rather than convex bony surface that could be reached, it was evident a head of some kind was presenting, and quite clear it was not that of my old acquaintance, the cat. I was rather pleased that I was about to be introduced to some new form of monstrosity;

for that such was the case, no doubt could now be entertained. As the labor progressed, a new phenomenon appeared, which proved perplexing, and somewhat obscured the definite character of the presentation. A thin, movable substance at the side of the part approaching, about an inch in width, was discovered; this was soon found to be attached, and pendent from it; but the child was soon born, and dissipated all uncertainty. The head of this child closely resembled that of the dog, both in form and feature, and presented a most sad spectacle; in form, a dog's head upon a human neck and body; in every other respect perfect. The pendulous portion, so troublesome previous to the delivery, proved to be the ear, both of which, nearly two inches in length, together with the head and all the features, were strikingly canine in form. The child was quite small, and although it never respired, a slight movement or two of some of the limbs made it probable it could have been easily resuscitated; but this was not attempted. My record does not specify the sex, which I find is the only omission of the kind.

This lady afterwards made to me the following statement: A neighbor's dog came almost daily to her yard, and greatly annoyed her from the early stage of her pregnancy, and when about three months advanced, she passed two dogs in the street in circumstances that excited in her mind extreme angry indignation. This she expressed in language the most extravagant. The dog which thus constantly disturbed her was a large, black, Newfoundland dog; and this continued till near the time of her confinement. But she had never entertained any apprehension or solicitude that her offspring would be other than perfect in form and feature.

I regret that I was not permitted to retain any of these specimens, or make any anatomical examination. [The parents in nearly all of them expressed a great repugnance at these monstrosities being even viewed, much more that they should be publicly known, and procured an immediate burial.] Permission for this was not obtained. This detail of the labor, and difficulty of ascertaining satisfactorily the presentation in these cases, may seem tedious; but it is eminently practical, and the medical is pre-eminently a practical profession; and it may, perhaps, furnish some hints which may prove serviceable to some of our younger brethren, should they ever find themselves in a similar dilemma. I have also detailed all the facts, and all the annoyances, impressions and influences brought to bear upon the mind of the mother during the period of gestation, in all of these cases that I could obtain the definite time of their occurrence, and the character of the impression made, that the physiological bearings, whatever they may be, may as clearly as possible appear. These cases suggest the following remarks:

1. That the quantity of waters in each was extremely large; no doubt exceeding twelve pounds.

2. That the child in each was small, hardly varying in apparent size, although two of them were born at the seventh month.

3. That the deformity in each of them was confined to the head; the first only being destitute of a neck.

The inquiry here suggests itself, Did the annoyances experienced by the mother in the first, second, and fifth cases] exert an influence direct or indirect upon the condition of her child during the period of gestation? Did they act as cause and effect? Here a field of investigation is entered which has given rise to much speculation, and which our present attainments in physiological knowledge do in no way decide. Physiologists entertain different and sometimes opposite opinions, but do not seem to have reached conclusions satisfactory to themselves or others. Some regard the impressions made upon the mind and nervous system of a pregnant woman as directly affecting the form and character of her offspring, while others disbelieve in any such effect. Dr. Combe thinks that facts and reason both demonstrate the reality of the influence. Carpenter advances a similar opinion. Mallebranche attributed unnatural formations to the influence of the mother's imagination on the fœtus in the womb; and Pompertius thought that her passions communicated to her humors irregular motions, which, acting with violence on the delicate body of the embryo, disturbed its structure. Richerand thinks that disease is a more probable cause while the child is in utero. Dunglison regards the influence of the maternal imagination as a cause of monstrosity an inadmissible hypothesis, and that cases which seem to be the result of such impressions are accidental coincidences. But these researches do not decide this question; they and all others are but the opinions of their authors, and furnish no demonstrative conclusion.

Is the conclusion that monstrosities are the direct result of impressions and annoyances as above alluded to, logical? is it philosophical? Our profession, gentlemen, is a philosophical profession, based on those fundamental principles, experience and observation of the laws of nature, which are the true foundation of all philosophy. Nature's operations and laws are our daily study, and direct all our opinions and practice. The astronomer may sweep the heavens with powerful lenses, and surprise the world with startling discoveries in created wonders;

the naturalist, with microscopic developments of invisible insect life; and others, in the various departments of philosophical research in the hidden arcana of nature. But the physician, if true to his profession and himself, is eminently a true philosopher, though he moves in an humble, retiring, and unobtrusive sphere.

With regard to these impressions, however unphilosophical, it does seem that a mysterious influence in some cases is exerted, while in others the reverse seems true. I knew a lady who felt assured she was about to give birth to a turtle, having been frightened by one in some stage of her pregnancy; another who was equally certain she should give birth to a snake; and others who entertained no doubt they should be delivered of some horrible monster. And yet, in all these cases, the children were in every particular perfect in form, and healthy. Let it be remembered that in all these cases, notwithstanding the annoyances experienced, no foreboding was entertained with regard to the perfection of the future progeny. In the third case the mind had not been at all disturbed, and no anxiety was felt with regard to the perfection of the child, but much solicitude for its life and vigor, in consequence of the death of those previously born. And yet the deformity was scarcely less than that of either of the others. In the fourth case I could ascertain nothing of the mother's mind during gestation; whether she had experienced any impressions or annoyances; and if so, what they were.

MONTHLY SUMMARY OF FOREIGN MEDICAL LITERATURE.

By Dr. L. Elsberg.

86. *Variations of Nerve-Excitability in Relation to the Action of Medicaments and Poisons.* By M. Claude Bernard. (London Medical Times and Gazette, August 3, 1861.)
87. *On the Cerebro-Spinal and Sympathetic Nervous Systems.* By M. Claude Bernard. (Ibid., August 17, 1861.)
88. *Action of the Nervous System upon the Vessels and upon itself.* By M. Claude Bernard. (Ibid., August 24, 1861.)
89. *Treatment of Wounds Inflicted by Poisonous Snakes.* By Dr. Viand-Grand-Marais. (Paris Journal of Practical Medicine and Surgery; London Medical Circular, July 24, 1861.)
90. *Effectually to Prevent Pitting in Small-Pox.* By Joseph Bell, M.D. (Glasgow Medical Journal; Dublin Medical Press, July 24, 1861.)

91. *Belladonna as an Anæsthetic.* By Prof. Pitha. (Wiener Medizinische Wochenschrift, No. 25, 1861.)
92. *Vegetations on the External Genitals during Pregnancy.* By M. Thibierge. (Gazette Hebdomadaire, 1861, 6 and 7.)
93. *The Kolpoluter, a Gyneco-Balneological Instrument.* By Dr. Spengler. (Balneologische Zeitung; Schmidt's Jahrbücher, No. 8, 1861.)
94. *The Acuometer, or Measurer of Hearing.* By Dr. Donhoff. (Prager Vierteljahrschrift für die prakt. Heilkunde, 70, 1861, I., p. 33.)

86. All organs, Bernard has shown, are liable to be transferred from a state of rest to a state of activity, and *vice versâ,* through the influence of the nervous system; the same organs exhibiting, however, very different degrees of excitability in different individuals, and, under different circumstances, even in the same individual. But in all animals which possess a given tissue, this element always retains its characteristic properties. How important the practical applications of this principle may become, is apparent. We quote, therefore, B's language somewhat at length.

All the organs of the body are called from a state of rest to an active condition when a stimulus is applied to the nerves; the reverse is the case when they are divided. But although the nature of the phenomena created in this manner is always identical, their intensity is far from being always the same; it depends upon the degree of nervous excitability possessed by the subject in each particular case. Such, no doubt, is the principal cause of the physiological differences which exist between the various species of animals, or between animals belonging to the same tribe; the same individual, when compared to himself, offers important variations in this respect; have we not seen that, during abstinence, the pneumogastric nerves are almost totally insensible, while after a meal this sensitiveness grows intense? The differences which exist between various kinds of animals are hardly more extensive than those which the same animal exhibits during abstinence and digestion. It must, therefore, be understood that the properties of any given tissue remain invariably the same throughout the scale of being, and only disappear in those tribes in which the tissue itself ceases to exist.

The application of these views to the action of medicines and poisons will, we believe, explain the greater or lesser intensity of their effects; these agents, as you are aware, exert their influence upon the histological elements of our tissues; but some poisons appear to be fatal to certain tribes of animals, and innocuous to the rest. We can only consider this as the result of a lesser degree of excitability in the tissues of certain animals; for we cannot admit that a substance like upas, which kills the muscular fibres, does not act indiscriminately upon all kinds of animals.

We have already met with an opportunity of discussing this point, with reference to the American arrows, which M. Boussingault placed at our disposal, and which we believe to be impregnated with the venom of toads. We showed you, on this occasion, that this substance is fatal to the animal which secretes it, although its action is less powerful upon the toad than on other species; the frog, for instance—a difference which coincides with the lower degree of muscular irritability in the former animal, a much stronger galvanic current being required to produce contractions in toads than in other batracians.

It is likely that the immunities which various animals are believed to possess with reference to certain poisons might also be explained by physiological causes. It has been asserted, for instance, that the hedgehog is not poisoned by prussic acid; but the accumulation of fat under the animal's skin (at a certain season of the year) does not allow this substance to come within the reach of the absorbent vessels, when injected under the skin; when it has really been introduced into the blood, death almost instantaneously follows.

It has also been asserted that hogs are not injured by the bite of venomous serpents; the viper, in our own climate, and the rattlesnake, in the New World. But for reasons similar to those just alluded to, the venom is deposited in the cellular tissue, where its presence is unattended with any serious inconvenience; while, if the serpent's fangs have reached the vessels, the usual effects of its bite are speedily observed as in all other species. Such is the case even in the porcine tribe, when the individual happens to be lean.

It has also been stated that sheep could not be poisoned with arsenic, and that enormous doses of this substance (30 grammes, or 540 grains,) produced no effect upon them. In a report read before the Academy of Sciences, Magendie showed that when the stomach of the animal is empty, the poison acts in the usual manner; but that in the cases which had been related, they had abundantly partaken of food, and that even a large dose of arsenic, when mixed up with an enormous mass of half-digested grass, would pass through the intestinal tube without being absorbed. The fact mentioned by Corvisart, which we recorded in one of our preceding lectures, offers some analogy with the present case.

There exist, however, certain substances which, however injurious to certain individuals, are not always equally noxious in all cases;

they might not inaptly be called "false poisons," for their effects do not immediately attack the springs of life; they operate, as it were, in an indirect manner. Such is the case with poisonous mushrooms, which are not, in reality, to be viewed as toxic agents, but give rise to acute inflammations of the stomach and bowels, which sometimes prove mortal. Notwithstanding, therefore, the fatal effects which they produce in some animals, we need not be astonished to see other kinds of animals escape unharmed, the power of vomiting being denied to certain species, (the horse,) while others eject offensive substances from their stomach with the greatest facility; in this latter case these irritating bodies do not remain in contact with the intestinal mucous membrane so long as to inflame it. Death, in fact, is often produced by the action of substances which, although totally deprived of poisonous properties, disorganize the tissues which lie in contact with them. Half a glass of boiling water injected into a dog's stomach causes it to die in a few minutes, after vomiting an abundance of blood; and we do not hesitate to range under this class powerful acids and alkalies, together with all compounds which, not being possessed of deleterious powers on histological elements, cannot, in our opinion, be viewed as real poisons.

In short, gentlemen, the properties of organic as well as inorganic matter are due to its structure and chemical composition; and, in the whole animal series, the histological element is invariably affected in the same manner by a given agent. The differences met with in various tribes appear, therefore, to be derived from the peculiar properties of the nervous system.

87. We transfer the following *in extenso* from Bernard's Lectures on the Spinal Cord:

The functions of the sympathetic nerve, and of the cerebro-spinal system, have long been viewed as entirely different in their nature; organic life being the sphere of activity of the first, and animal life of the second. But the recent progress of physiology has shown so absolute a distinction to be unfounded. There exist certain expressions, still in use among medical men, which ought to be expunged from the vocabulary of science, and the words "sympathetic nerve" or "cerebro-spinal system" evidently belong to this class. The difference exhibited by the two systems in their outward appearance and anatomical disposition has been the principal source of this error. Struck with the presence of ganglia on the organic nerves, anatomists were led to consider them as an apparatus entirely distinct from the voluntary nerves; and Bichat himself, adopting in this respect the opinions in force among his contemporaries, believed each ganglion to be the centre of an independent nervous system.

The notions which formerly prevailed on this subject are now completely laid aside, and it has been proved beyond the possibility of a doubt, that, although the ganglia enjoy certain special powers, they must not be viewed as independent sources of nervous action. The sympathetic nerve is known to arise from the spinal cord; modern micrographers believe it to be derived from a distinct order of cells; and physiology fully confirms these anatomical data, for the cervical branch of this nerve is completely paralyzed by the division of the anterior roots of the seventh and eighth spinal pairs. We shall, no doubt, soon be enabled to prove, by similar experiments, that all the branches of the sympathetic nerve are derived from various regions of the spinal cord; the actual tendencies of physiology point to this result.

But the origin of the sympathetic nerve was not the only argument adduced in support of its existence as an independent system; its action on the muscular fibres was also believed to be different from that of the voluntary nerves, the contractions excited by the latter being instantaneous, while those excited by the former are slow in making their appearance. Either, therefore, the nerve-fibres conduct differently in the sympathetic system, which is not probable, or the histological elements placed under its control do not obey at once the impressions which reach them; we have already stated the latter opinion to be our own.

The nervous system, therefore, contains only two great divisions—sensitive and motor nerves: it matters little whether the subject is conscious of their action or not, their properties in both cases being identically the same. The sensitive apparatus is endowed with consciousness in the cerebro-spinal system, and does not enjoy this property in the organic nerves; but the difference is not an absolute and unconditional one; for the viscera frequently acquire a high degree of sensibility in acute diseases, and, on the other hand, the cutaneous surface, in paralytical subjects, is totally insensible to external impressions; that is to say, the feeling of pain no longer exists, but the reflex actions which are still produced inform us that the sensitive nerves still retain a part, at least, of their usual properties.

With respect to the motor nerves, our experimental researches have led us to distinguish two kinds of these; the first being destined to reduce the capacity of the vessels, the second to increase it. We know the former to be derived from the sympathetic nerve, and believe the latter to spring from the cerebro-spinal axis. To those of the first class we give the name of vasomotor nerves; we know them, in fact, to produce contraction in the vessels by acting upon muscular elements; but the powers of the antagonist system are infinitely more difficult of comprehension; it appears to stimulate the dormant activity of the tissues to which it spreads, creating secretion in glands, contraction in muscles, and phenomena of a different nature in other parts. Whether the nerves which give rise to these effects and those which dilate the vessels are identically the same, is a matter of doubt. You are aware that contraction in muscles and secretion in glands usually coincide with a turgid state of the capillaries; but these phenomena are not inseparably connected: the circulation of a muscle may be accelerated, without giving rise to contractions, and contractions may take place without exerting the slightest influence on the local circulation. The same being the case in glands, it may be questioned whether these various effects are all produced by the same class of nerves.

There exists a circumstance in this respect which we have hitherto been at loss to explain: we allude to the influence which both the sympathetic nerve and the tympanic cord appear to exert upon the salivary glands. When the motor nerve is galvanized, the circulation is accelerated and secretion takes place; but when the sympathetic nerve is excited the vessels contract, the passage of blood in the vessels is retarded, and yet the power of secretion continues. The properties of the fluid produced are, however, not the same.

The results of this experiment appear to justify the conclusion that two distinct orders of nerves preside over the functions of glands; but we ought not, perhaps, to place an implicit reliance on the stimulus employed, viz., galvanism; for M. Dubois Reymond has proved that on electrifying the nerves, an electro-tonic state is produced, which does not act upon the muscles, but upon the nerves which lie in the vicinity; they are liable, in fact, to receive a part of the superabundant electricity condensed in the neighboring trunk. Let it be supposed, for instance, that a current passes through a nerve which lies in contact with another divided nerve, contractions will appear in the muscle connected with this latter branch, although no direct impulse has been conveyed to it; the proximity of another nerve, strongly impregnated with the electric fluid, being sufficient to create a participation in its effects.

It seems, therefore, preferable to employ other kinds of stimuli in experiments of this nature; common salt, for instance, is a powerful excitant of the nervous system, and is perfectly free from any similar inconvenience; there is no difficulty in proving this at once.

(M. Bernard removes one of the posterior extremities in a frog, lays bare the sciatic nerve, and dips it into salt water; the whole limb enters at once into a state of tetanic rigidity.)

You perceive, gentlemen, that salt acts upon the nerves, and produces muscular contractions as readily as the agents usually employed. We have repeated the experiment on the tympanic nerve, and an abundant secretion was immediately produced in the salivary glands. We then applied this stimulus to the corresponding branch of the sympathetic nerve, and after leaving it in contact with this substance for several minutes, we ascertained that no secretion whatever had taken place, although the vessels were contracted to such a degree as to render the venous blood almost completely black.

It would, therefore, perhaps be necessary to modify, up to a certain point, the opinions which we had formerly adopted on this subject. There appears to exist only one nerve which acts upon the secreting powers of the gland, and that nerve is derived from the cerebro-spinal system; the effects produced by the galvanization of the sympathetic nerve being probably due to the electro-tonic state which follows. In fact, when a powerful galvanic current is brought to bear upon the nerve which dilates the vessels, the antagonist system is sometimes also excited, if the current is sufficiently strong. If, for instance, we gently stimulate the tympanic cord, the circulation is at first accelerated, and the secretion commences; but if the intensity of the current is gradually increased, the vessels contract, the passage of the blood is retarded, yet the secretion still continues to flow. In this experiment the sympathetic nerve has evidently been excited by the electro-tonic state of the tympanic cord; but on reversing the experiment—on galvanizing with great intensity the sympathetic branch which extends to the submaxillary gland, a similar influence is exerted on the motor nerve; circulation is at first impeded, and the blood contained in the veins grows black; but on continuing the experiment, the secreting elements of the gland will at last be excited, and the saliva will begin to flow. We, therefore, consider the action of salt upon the nerves to be a closer approach to the physiological state; and, in our opinion, all the experiments hitherto made on secretion require a complete revision; galvanism having almost invariably been employed in these researches, the results obtained up to the present time can no longer be relied upon, and the opinions expressed in a former part of this course will perhaps be contradicted by future experiments.

The preceding considerations are equally applicable to the muscular system. When the nerve which presides over the contractions of a muscle is excited, the vasomotor branches simultaneously obey the impulse; the muscular fibres and the vessels contract at the same instant, and the venous blood assumes a dark hue. It would, therefore, be desirable to separate these two classes of nerves, in order to observe the effects produced by each of them in its individual capacity; but in the greater part of the body to do this is impossible. The voluntary and involuntary nerves are united in a single trunk, and cannot be separately excited. The muscles of the face alone are favorably disposed for this operation, being supplied with nerves from the cranial pairs, which do not mingle with each other immediately after their origin. The masseter is one of the muscles which offer the best opportunity for making this experiment, on account of the peculiar anatomical distribution of its nerves. The ramifications of the sympathetic system which extend to this muscle being divided, the venous blood grows scarlet; but on galvanizing the peripheral extremity of the cut nerve the blood regains at once its primitive appearance, the muscular fibres remaining, however, in a state of perfect tranquillity. From this experiment it may be inferred that the chemical composition of the blood, which is evidently connected with the process of nutrition in the tissues, is not modified in all cases by this vital condition. We know, in fact, that muscles entirely separated from the body, and totally deprived of circulation, still retain the power of entering into contraction when excited; the physiological act in this instance is altogether independent of the state of the blood.

The system of organic life appears, therefore, to confine its action to the vessels. But the reciprocal influence of sensitive and motor nerves in the cerebro-spinal apparatus is too well known to require a proof, nor is it to be supposed that reflex actions are confined to the voluntary nerves. The vasomotor apparatus equally enjoys this important property. The influence of cold on vascular contraction evidently belongs to this class of phenomena; and you are aware that on dividing on one side the cervico-cephalic branch in animals, subjected to the process of congelation, the effects of cold are immediately felt on the non-mutilated side, and are slow in making their appearance on the other.

It is highly probable, gentlemen, that in the difficult and complicated study of the nervous system, we meet with two distinct orders of nerves. The vessels are placed under the influence of the first, while the histological elements obey the power of the second; nutrition depends on the former, and physiological activity is aroused by the latter. The sympathetic nerve may therefore be viewed as a complementary apparatus, placed by the side of the cerebro-spinal system. Both are derived from the same origin, both enjoy similar properties, but the elements on which their action is exerted are of a different nature.

88. The following is Bernard's general recapitulation of the views expressed by himself, in the course of lectures delivered at the College of France:

The nervous system, as Blainville philosophically observed, creates a secret harmony between the different parts of the living frame, establishes a permanent connection between them, and renders them mutually dependent upon each other. The principal object of the preceding Lectures has been to show that Nature employs two great classes of nerves for the accomplishment of this purpose; there only exist two kinds of nervous fibres in the economy, which are, so to speak, derived from each other, and unite in the central parts of the system to form one great apparatus, the only real difference between sensitive and motor nerves being the direction of the nervous currents which travel along this fibre; it would, in fact, be altogether impossible to conceive in any given animal one set of nerves as existing independently of the other; and the chemical phenomena which take place within the living body being, as we have shown, the result of the action exerted by a particular class of motor nerves upon the vessels, are inseparably connected with the other manifestations of nervous activity.

The importance of the connection which exists between nerves and vessels has, we trust, been strongly impressed upon your minds; it is the key to all the local modifications which arise upon certain given points of the economy, the general circulation being left undisturbed, and the heart's action remaining the same as before. In short, the discovery of the vasomotor nerves is pregnant with deeply-interesting results, both in Physiology and Medicine; it explains the singular phenomena of local circulation, from which the great majority of morbid symptoms are derived. No disease ever fixes upon all the organs at once; but local effects give rise to general affections, and these in their turn create local disorders; but the knowledge of the general laws of circulation cannot evidently enable the physiologist to explain the congestive phenomena which almost invariably result from the action of morbid causes. As long as we content ourselves with taking into consideration the impulse given to the blood in the heart, and the resistance which the tissues oppose to its progress, we shall only be able to account for general results, which extend to the whole economy. There exist, therefore, in the eyes of the physiologist and medical philosopher, two circulations entirely distinct in their nature, and in the effects which arise from their changes: the first is the general circulation, which Harvey's immortal labors have brought to our knowledge; the second is the capillary circulation, which lies under the direct control of the nervous system, and acts separately upon each individual spot of the body. To this part of the vascular apparatus are the majority of the morbid symptoms, or physiological phenomena, to be referred when a single point is affected, the other parts of the economy remaining in their usual state. There exist, in fact, two kinds of capillary vessels: the first establish a direct communication between arteries and veins, and secure a passage for the blood which flows from one system into the other; the second being of smaller dimensions, lie in contact with the histological elements of the tissues, and enjoy a considerable influence upon them. On this portion of the vascular system is nervous power chiefly exerted.

Another point to which your attention has been drawn is the mode of action through which these results are obtained; the contractile elements are as usual placed at the disposal of the nervous system; it cannot, in fact, be rationally asserted that the nerves act directly upon the blood, and modify its chemical composition, or change the direction in which it flows. In the vessels, as in all other parts of the body, the action of nerves is connected with the muscular element; and microscopical anatomy confirms the data of physiology, by showing muscular fibres to exist in the vessels.

We are thus enabled, through the action of the sympathetic nerve, to modify at our pleasure the nutritious and vital activity of all tissues in living animals; bones, muscles, glands, and other organs, obey the power of the nervous system. There exists one tissue, however, in which this process appears still more extraordinary; we allude to the action of the nervous element upon itself. So complicated, in fact, is the disposition of the living process, such is the intricacy of vital phenomena, that homologous tissues sometimes modify each other. This reciprocal influence, in the present case, is easily explained; the numerous vessels which ramify in the brain and spinal cord being, as in other regions, placed under the control of the ganglionic system, the influence of the sympathetic nerve extends to the very centre of the nervous system.

The experiments of Donders, which we alluded to on a previous occasion, have fully justified the opinions here expressed; the introduction of a thermometer into the skull proves that after the division of all the branches of the upper cervical ganglion, the cerebral substance itself participates in the effects of this operation; its temperature rises, its vascularity increases, and, as a consequence, the general sensibility of all the cerebro-spinal nerves is considerably increased. An operation performed on a single point of the nervous system gives rise, therefere, to a general hyperæsthesia of the whole apparatus. Might not these observations lead to a more accurate knowledge of the cerebral functions, hitherto involved in such deep obscurity?

The application of these views to pathology has been partly attempted in the preceding Lectures; and we have endeavored to show you the intimate connection which unites the nutritive process to the leading features of inflammation. Without attempting to give a definite explanation of these facts, we feel justified in stating that the influence of the vasomotor nerves upon the phenomena of nutrition is proved beyond the possibility of a doubt; we have shown you that the division of the principal branches of this nerve gives rise to inflammatory symptoms in the corresponding organs, when the animal is deprived of food. The intimate nature of these properties of the nervous system cannot, of course, be satisfactorily explained; but you are fully aware that the primitive causes of all natural phenomena lie beyond the reach of human knowledge; and the obscurity in which this part of the subject is involved is not the exclusive privilege of nervous action: an impenetrable mystery hangs over the origin of all the powers which maintain life.

In concluding this Course, it remains for us to show the relations in which our principles stand to the doctrines which actually prevail in the Medical Sciences. The history of Medicine embraces two distinct periods—that of empiricism, and that of scientific observation. Such is the case with all branches of human knowledge: we start from direct observation at first, and gradually rise to the conception of a regular system of definite laws, embracing all the relations of cause and effect. The progress of Physiology and Medicine has been slower than that of other sciences; but they rapidly tend to acknowledge settled rules and general laws; and the experimental method alone is capable of leading us to the long-wished-for result. We do not pretend, therefore, to exhibit the science of disease in its definite and perfect form; but we have endeavored to impress upon your mind the fundamental principles which must in future guide the labors of all scientific observers. The only solid foundation on which the edifice of Nosology can be raised is Physiology; and in spite of the cavils of those who, after devoting the greater part of their lives to clinical observation, have been led to despise all other methods of acquiring knowledge, the artificial barriers which prejudice had raised between the two sister sciences are crumbling into dust. We shall therefore pursue the course of our experimental labors; and in the course of the next Session we shall endeavor to elucidate, by physiological operations, the history of one of the great morbid series with which clinical observation has made us acquainted.

89. Dr. Viaud-Grand-Marais has collected 203 cases of wounds inflicted by vipers. We subjoin some of his practical deductions:

The bite of the viper, like all other envenomed wounds, requires immediate attention, the most important point being to neutralize the poison before it has been absorbed. Three indications thence arise, viz., *to cut off all communications between the wounded part and the circulating system; to expel the venom from the bite; and to destroy it* in situ.

The first thing to be done after a bite inflicted by a venomous snake of any kind, is to apply *a ligature* at two or four inches from the wound, between the latter and the heart; a neck-tie or handkerchief, a garter, or any other broad band, is preferable to a narrow cord. The ligature should be tightened sufficiently to cause the veins to swell, as in phlebotomy, but not enough to make a deep indenture in the flesh, which would increase the chances of inflammation, and might induce gangrene. This is but a temporary measure, and should not be persevered in for more than three-quarters of an hour or an hour at most; and the band should even be loosened or displaced, if any increase of the local symptoms be observed.

When the injured region (the head, neck, or body,) does not admit of the application of the ligature, pressure should be exercised around the wound with the hands, while other methods of treatment are resorted to.

To meet the second indication, the escape of blood and the extrusion of the venom should be promoted by incision of the punctures and pressure of the neighboring parts. Suction is also an excellent means of extracting poison, whether exercised with the mouth or with a cupping-glass. M. Viaud-Grand-Marais adduces in illustration two cases, which peremptorily demonstrate the beneficial effects of this measure.

"In the neighborhood of Blain, a man named Civel, aged thirty-four, was bitten in 1858 by a common red-colored viper, while grasping a sheaf of corn. Dr. Sortais, who was fortunately present, applied a ligature, sucked the wound, which was situated in the right thumb, and exhibited hartshorn both externally and inwardly. The patient had entirely recovered from the effects of the injury on the following day."

This kind of aspiration extracts the venom with the blood, and the operator should reject it as soon as it reaches his mouth. The poison, moreover, does not injure healthy mucous membranes; but if any sores existed on the tongue or within the mouth, cupping should be resorted to instead.

In order to destroy the venom in the wound, appropriate chemical agents are employed. Hartshorn is a delusive agent; the success obtained by Messrs. Brainard and Green points out the watery solution of iodide of potassium and iodine as far more efficacious.

A sufficient quantity of this fluid should be inserted into the bite. The following is the formula recommended by M. Viaud-Grand-Marais:

℞.—Aquæ, ...	$1\frac{1}{2}$ oz.
Potassii iodid., ...	1 dr.
Iodinii, ...	20 gr. M.

If this solution could not be obtained, if the symptoms were urgent, and the temperature of the skin falling, a knife, a nail—any iron implement, in short, should be immediately carried to red heat, and used to cauterize the wound deeply.

When emesis has supervened, cauterization is superfluous, and the practitioner must trust, for the purpose of checking the further progress of the poison, to sudorifics, tonics, ammonia, (a few drops in a cup of tea,) spiritus Mindereri, wine, coffee, together with the simultaneous application of cotton-wool and oil-silk, over the diseased parts, blankets and bottles filled with water.

90. Dr. Bell strongly recommends the following application as preventing both the pitting and the swelling of face, &c., in small-pox. He noticed that febrile symptoms also became considerably mitigated on employing this dressing. "The *linimentum aquæ calcis* should be poured on a plate, then masses of cotton-wool, answering in size and shape to the parts to which the dressing is to be used, should be dipped in the liniment, and applied in such a manner as to completely cover the face and neck, leaving apertures for the eyes, nostrils and mouth. The cotton should be closely matted together, so as to allow no crevice to exist, and a large handkerchief should be tied over all, having holes cut in it so as to correspond with the apertures over eyes, nostrils and mouth. The dressing should be allowed to remain until con-

valescence, and if it becomes accidentally detached at any part it should be immediately renewed."

91. Pitha relates an interesting case of herniotomy in which belladonna produced a remarkable narcotic effect, after ether and chloroform, tried for a long period, had failed to induce insensibility. Besides rubbing the abdomen with the extract, about a scruple had been injected into the rectum. A deep sleep of twelve hours followed; no other signs of poisoning presented themselves than the dilatation of the pupils. It is suggested that the anæsthetic effect was due to the combined action of the substances employed, and he considers that they may act as mutual correctives of each other. In cases like this, proving refractory to the employment of chloroform, a mixture of chloroform and atropine should be tried.

92. Thibierge adds several cases to those he has previously published, to show that the vulvo-vaginal vegetations sometimes observed in pregnancy are, in fact, induced by the condition of gestation, and do not depend, as is generally supposed, upon venereal affection. Surgical interference should be abstained from, unless the vegetations are excessively large, and persist not only after delivery, but also after the return of the menses. [It could hardly be believed by most practitioners how often these innocent vegetations give rise to mistakes and misapprehension in, as well as out of, the profession.]

93. The Kolpoluter, as described by Dr. Spengler, of Ems, is a vaginal speculum, the walls of which consist of wire bars running longitudinally parallel with each other, leaving a space between each two. Below, these bars are fastened at a right angle to a zinc plate, easily bent, and thus adaptable to the pelvic axis and vagina of the individual patient. The plate is provided, front and back, with small rings, by means of which the apparatus can be secured in place by being tied to an abdominal bandage, thus allowing the patient freely to move about in a bath without displacing the instrument. Above, the wire bars, cut off obliquely, terminate in a ring which is to receive the vaginal portion of the uterus. To prevent the pinching or falling in of the mucous membrane between the bars, an obturator, entirely filling the speculum, is used in introducing it. Dr. S. is confident that this instrument will be found perfectly to answer its purpose, which is, to render it possible to combine with the general bath a local one of the mucous membrane of the vagina and of the lower portion of the uterus, and to allow a free admission of the liquid to these parts. [Without any knowledge of Dr. S's Kolpoluter, we have long employed, and at a late meeting of the Medico-Chirurgical College de-

scribed, a somewhat similar instrument, manufactured by Messrs. *Otto & Reynders*, the excellent obstetrical and surgical instrument-makers of this city. The wire bars, instead of being fixed to a heavy and inconvenient zinc plate, also found fault with by Arldt, the reporter in *Schmidt's Jahrbücher*, end below in a ring, and unite above. In future, we shall adopt Spengler's termination of the wires in an obliquely-inclined ring above, and thus altered, when desired, we feel no hesitation in recommending the Kolpoluter as an instrument that may frequently be employed to great advantage.]

94. Accurately to determine the amount of difficulty of hearing, Dr. Dönhoff, of Orsoy, makes use of the following apparatus: A rod three feet high is attached to a circular piece of board one foot in diameter. The board is provided all around with a projecting edge, so that small bodies thrown on it cannot roll off. The rod is graduated in inches, or still smaller divisions, numbered from below upward. He also has three small balls, made respectively of wax, wood and lead, each measuring one line in diameter. To measure the difficulty of hearing, he, for instance, commences with dropping the waxen ball on to the board from a height marked on the rod by the figure 5. If the patient does not hear the sound which the little ball makes on striking the board, he lets it fall from a higher mark, and he thus increases the height until the patient distinctly hears the ball strike the board. If this be, for instance, from a height of 28 inches or marks on the rod, he calls the patient's difficulty of hearing 28, waxen ball. But if the patient hears no sound, even if the ball falls from the highest mark on the rod, he tries similar experiments with the wooden ball, which intensifies the sound. If this also give negative results, he makes the same trials with the leaden ball. If the patient distinctly hears the sound of the latter falling from the height of 5 marks, that patient's difficulty of hearing is 5, leaden ball. For the severest cases of hard-hearing, he employs a tin-covered board and leaden balls of increasing size; some as large as musket-balls. By the use of this apparatus, during and after treatment, we can also admirably watch and determine the amount of improvement, etc. [Though we have not yet ourselves tried this simple, and, if reliable, very ingenious—and especially valuable, because so easily obtained—instrument, we shall certainly make one for ourselves, and advise our readers who see patients with difficulty of hearing to be sure to do likewise.]

TRANSLATED FROM THE FRENCH, EXPRESSLY FOR THE MONTHLY.

Lectures on Diphtheria. (Egyptian Disease.) Delivered at L'Hôtel Dieu, Paris. By M. Trousseau.

(Translated by the Editor from La Clinique Médicale de L'Hôtel Dieu, of M. Trousseau.)

(Continued from Vol. XVI., page 157.)

A peculiarity which has not been indicated, so far as I know, by any of the authors who have published facts concerning diphtheritic paralysis, a peculiarity which I have noticed several times, and the existence of which you have been able to see, in the patient who is the occasion of this lecture, is the mutability of the accidents. Thus you will see the paralysis that occupies one limb diminishing, only to appear in another. The numbness which the patient feels in one leg, for example, will cease momentarily, and become more pronounced in the other; to-day the right hand will give upon the dynamometer only a pressure of from 10 to 12 kilogrammes; to-morrow its force will be increased, while the weakness of the left hand will be greater; then the parts primarily affected will become so a second time. This strange aspect of the phenomena is hardly the special peculiarity of paralyses, symptomatic of a material lesion of the nervous centres, appreciable on autopsy; it is found in other maladies, particularly in hysteria; it is also found in paralyses consequent upon acute diseases, as Dr. Gubler has remarked in a valuable paper on this entirely new subject, which he read lately before the Société des Médicins des Hôpitaux.

The muscles of organic life are not free from the influence of the disease; I have already told you that the diaphragm could be affected; the muscular coatings of the intestines, especially the rectum, are so more frequently. As I have seen in several instances, there is then obstinate constipation. In the case of the patients whose cases, collected by Dr. Sellerier, were communicated on the 18th of September, 1857, to the Society of Medicine of the Department of the Seine, there was first retention, and then incontinence of the fæcal matter.

In some cases, paralysis affects the bladder; there is then dysury and vesical tenesmus, and the individuals urinate by regurgitation; when the sphincter is paralyzed, there is, on the other hand, incontinence of urine.

Enfeeblement of the virile faculties, extending sometimes even to the most complete anaphrodisia, is a fact which I have found in the greater part of persons attacked with paralysis after diphtheria, when I have asked them in respect to it. Some of you will remember a young man, of whom, however, I shall soon have occasion to speak to you; his bed was No. 19, in our Ward Saint Agnes, and this loss of the virile faculties was one of the accidents to which he at once called our attention. You will readily understand, gentlemen, that the existence of this anaphrodisia is not easily sought after in women.

The senses of smell, taste, hearing, are in some cases affected, but disturbances of vision are most commonly met with. My colleague, Dr. Blache, like myself, has observed examples of these. On the 15th of last June, I was consulted in regard to a young girl nine years of age, who had been thus attacked. She had been cured of membranous angina at Vichy, by my honored confrère, Dr. Alquié. Two weeks had scarcely passed after her sickness, when she had the nasal tone of voice, but the paralysis was confined to the veil of the palate; at the end of a certain time the little patient experienced a general weakness, which her parents perceived on seeing that she gave herself up with less eagerness to her wonted play. They brought her to my office, and I found this weakness, which was then excessive; on trying her strength on the dynamometer of Dr. Berg, I obtained hardly from three to four kilogrammes of pressure; I also discovered that she was presbyopic. A few days after her mother brought her to me again, and the first word she said to me was to tell me that she could no longer see as before; while previously she could read at a great distance, she could not read at all now, unless she held her book only two or three inches from her nose; to far-sightedness had succeeded near-sightedness.

Presbyopy and myopy are observable in a great number of persons affected with paralysis after diphtheria. Presbyopy, I must say, is the more frequent, but sometimes also weakness of vision is manifested by near-sightedness; a child whom I sent to my friend Dr. Follin, that he might examine her eyes with the ophthalmoscope, could not read the No. 10 of Jæger, that is to say, the sub-title of the *Moniteur des Hôpitaux.*

This weakness of vision extends, in some circumstances, even to complete blindness; a blindness which ceases, it is true, after a variable period. This temporary amaurosis is sometimes one of the first accidents of diphtheritic paralysis.

On endeavoring to give a reason for these temporary perturbations of vision, we have had proof that there was no appreciable material alteration whatever, either of the membrane of the eye or of the retina, or of the middle of the eye. This is the conclusion reached by Dr. Follin, whose talent and great experience in the solution of the problem which engages our attention is well known to each of you. While admitting that we must look elsewhere for the cause of the evil, the savant whom I have just named thinks that these difficulties of vision result from the paralysis of certain muscles of the eye. You know, gentlemen, the part which a great number of physiologists have assigned to the action of the proper muscles of the eye, in the faculty which this organ has of accommodating itself to different distances: the paralysis of some of these muscles would draw in its train, if we accept this theory, considered by others untenable, however, the want of accommodation, which would produce, according to circumstances, either presbyopy or myopy. Whether this paralysis of the muscles plays its part effectively or not, the disturbances of vision of which we are speaking, amaurosis and amblyopy, may indeed be connected with phenomena of another sort. Consider, in truth, how frequent a thing it is to see albuminuria coinciding with paralysis consequent upon diphtheria; consider that if, in some cases, albumen has not been found in the urine of patients affected with difficulties of vision, this albuminuria is nevertheless the rule; then you will not ignore the fact that amblyopy, amaurosis, presbyopy, are accidents which are commonly observed in those affected by albuminuria; we may therefore believe that, in some of the cases which we are now considering, albuminuria should be taken into account, and that the whole cause should not be attributed to paralysis of the muscles of the eye.

This paralysis is nevertheless incontestable; it is that which occasions the fall of the pupil and the strabismus pointed out in several cases, and which, when it affects only one eye, causes diplopia.

All these phenomena—paralysis of the veil of the palate, paralysis of the extremities, of the muscles of the trunk, of the face, difficulties of vision—continue for a longer or shorter period, but finally entirely pass away. Death sometimes, as I have taken care to tell you, even when the diphtheritic paralysis has assumed the aspect of the mild form, may be the result of intervening accidents. I have already made allusion to the case observed by my friend Dr. Tardieu, my colleague at the Hôpital de Lariboisière, and published in the *Union Médicale* the 1st of October, 1859, by his pupil, Dr. Rocher. Death occurred in this case from asphyxia, consequent upon the passage of a morsel of food into the left bronchus. Dr. Peter has reported a similar example in the case of a child eight years old.

We might well be astonished that these accidents are not more common, when we see how frequently the difficulty of swallowing occurs in individuals affected by diphtheritic paralysis. Our patient of the ward Saint Bernard just escaped being a victim of this terrible complication; and you remember it was necessary, for some time, to exercise the greatest precaution in feeding her. In spite of these precautions, we have had several times attacks of suffocation, solid food and drinks having a tendency to get into the air-passages.

When diphtheritic paralysis assumes the *severe form*, of which I will now speak to you, the termination is fatal, and occurs in the midst of terrible nervous accidents, in the presence of which all the resources of medicine are powerless.

You have seen a case of this sort in a patient of our ward Saint Agnes: he was a young man of twenty-five, who said he had been suffering for four days, when he entered the hospital. We perceived the existence of a pseudo-membranous pharyngeal angina, which seemed in a fair way to do well the twelfth day after his coming to the hospital. I was, however, frightened by the persistence of the albuminuria, when paralysis of the veil of the palate supervened. Forty-eight hours after, the lower limbs were affected; considerable weakness rendered walking painful; at the same time, he lost his appetite, deglutition became more difficult, and a whitish point appeared anew in the throat. Nine days later, the quantity of albumen contained in the urine was excessive; the legs were infiltrated; respiration was markedly labored, and we found pulmonary œdema. Weakness continued to increase, and the patient died the twentieth day after the commencement of the paralytic accidents, and a month after his arrival at Hôtel Dieu.

I was sent for, four months ago, by Dr. Surbled, (of Corbeil,) to see a man fifty-two years old, who had contracted diphtheria from one of the members of his family. He had been sick eight days, and appeared to be cured, when he began to have the nasal tone of voice and difficulty of deglutition. Soon the lower extremities became weak, and the weakness continued to increase, while the upper extremities were seized in their turn; numbness and pricking sensations accompanied this paralysis of movement; respiration was afterwards involved, and the dyspnœa was considerable when I saw the patient. The accidents augmented progressively, and death took place three months after the commencement of the diphtheritic affection of the throat.

The little girl whom I saw in 1848, with Dr. Dewulf, perished in like manner from this severe form of diphtheritic paralysis, being carried off by cerebral accidents, whose nature I was at that time ignorant of, and which I considered, as I have already said, to be dependent upon a tuberculous lesion of the brain.

Similar facts have been observed by others. Permit me at this time to relate two of them, which I take from the article of Dr. Maingault. The first is borrowed from the thesis of Dr. Pératé. (Essay on Diphtheria, Paris, 1858.) It is the case of a child twelve years and a half old, who entered the Hospital of the Rue de Sèvers on the 19th of July, 1858. Five days before, he had been attacked with slight sore throat; his general condition was quite satisfactory, except considerable pallor of the integument; his appetite was good, and he slept well. The whole throat, but especially the veil of the palate and the tonsils, presented a red coloration, and a false membrane, rather thick, somewhat adherent and whitish, extended from the right pillar of the veil of the palate to the palatine arch, measuring four centimetres in length. On the 20th the child had anorexia, but at the evening visit we perceived a sensible improvement, which continued until the following day. That day the general pallor had augmented; the patient again lost his appetite, and began to have the nasal tone of voice. In the evening, drinks returned through the nose, and there was great difficulty in swallowing. The paralysis of the veil of the palate progressed; however, on the 24th there was no longer any traces of false membranes in the throat. The child evinced an invincible repugnance to food, and fell into a condition of extreme feebleness. The urine examined at this time showed no albuminous precipitate whatever.

On the 30th all undigested food was vomited up, and the patient complained of pain in the epigastric region, which pressure exaggerated. On the 31st the vomiting continued, and there was also constipation. A frightful pallor overspread the countenance, which presented a greenish-yellow tint. The limbs were in a condition of complete resolution, and the patient let his hand fall out of the bed as though it were lifeless; yet his eyes preserved their brilliancy, and almost their animation. His intelligence was unimpaired, and the child answered all questions. His pulse was imperceptible, and the extremities were icy cold; a gentle delirium supervened, and the patient passed away.

On the autopsy we could find only a slight redness of the pharynx. We could perceive nothing in the air-tubes or in the lungs, except that they were slightly choked up; the heart was large, and contained very black liquid blood, but not of sepia color. All the entrails were healthy; the kidneys alone, somewhat bulky, were very much congested. The nervous system was not examined.

The second case, which has been chronicled by Dr. Millard, is still more remarkable.

A little girl nine years old, on the 22d of March, entered the hospital of the Rue de Sèvers. Following an attack of membranous angina from which she had suffered six weeks before, and which lasted ten days, she had the nasal tone of voice, and the difficulty of deglutition, particularly in the deglutition of liquids; all drinks returned through the nose. General weakness rendered walking and an erect posture painful, and provoked uncertainty in all her movements. The child also called her mother's attention to the fact that her sight was impaired, that she could no longer thread a needle; she was sad, and had very little appetite; she had no diarrhœa or fever, but for eight days she had coughed a little.

On the 23d of March we perceived a change in the tone of her voice; by causing the child to open her mouth and telling her to pronounce the exclamation *ah!* we could see that the veil of the palate remained completely motionless. Its sensibility was, however, preserved, for when the uvula was tickled nausea was excited. The sense of sight was sensibly weakened; the pupils were small and contracted; the patient took hold of the objects presented to her with an uncertain grasp, and allowed them easily to escape from her when she held them. Her uncertain, tottering walk gave the idea of incomplete paraplegia; her sensibility was not changed; her urine contained no albumen.

The first two days after her arrival in the hospital, the patient was sad, without appetite and without energy; but as she became habituated to her new home she went down into the garden, and regained her spirits and strength. Paralysis of the veil of the palate continued at the same point. A tonic treatment had been instituted, and each day we gave a gramme of the extract of quinquina in an infusion of coffee.

On the 28th of March the little girl went to mass in the morning, breakfasted with appetite, received the visit of her parents, who went away enchanted with the improvement which they had found in her. She also went down to vespers with her companions, when at four o'clock she was seized with cerebral symptoms, which seemed at first to threaten syncope; she sank down suddenly without a cry or convulsion, but with changed features. At five o'clock Dr. Millard saw her in the following state: she was lying on her back with face flushed, complaining of a violent headache; skin warm; pulse at 128. Intelligence was perfectly clear. There was neither contraction, convulsions, nor paralysis, but there was strabismus, and the voice continued nasal in tone. The cough was severe and sonorous, while there was no sign of pulmonary lesion appreciable on auscultation or percussion. Since the preceding day constipation was observed. In the uncertainty of the diagnosis, Dr. Millard ordered the immediate cutting of her hair, which was very abundant; the application of four leeches behind her ears, a purgative clyster, and the application of sinapisms to the lower limbs. In the evening *general convulsions* supervened; the patient uttered piercing cries, and passed a very disturbed night. The clyster provoked an abundant stool, and the leeches operated well.

On the following day at the morning visit, her countenance was pale, and pulse less resistant than the previous day; slightly depressible, but still at 128. Her pupils remained normally dilated; vision weak, and strabismus very marked. The child complained only of pain in the head, and intelligence continued clear. Respiration was obstructed and like sighs, yet we could not detect any signs whatever of pulmonary affection.

We ordered calomel with scammony in the proportion of forty centigrammes of the one to ten centigrammes of the other, divided into five powders, to be taken one every hour. In the afternoon at four o'clock, the child was in the agony of death, while at the same time she preserved her mental clearness, without having either convulsions or contractions, and death came an hour after.

The autopsy did not disclose any appreciable lesion whatever of the different organs, except pulmonary congestion at the base, and in the left lung, two tubercles of the size of a hazel-nut.

Thus, gentlemen, disturbances of respiration, as we have also observed in malignant fevers, vomitings, delirium, convulsions, ataxo-adynamic phenomena and general exhaustion, such are the accidents in the midst of which patients may die under the severe form of diphtheritic paralysis; accidents which attest the malignity of the cause which has smitten these individuals, and which has brought its active principle to bear upon the radical forces of the human organism.

A peculiar feature in the two cases which I have related to you, and which I have not omitted to point out, is the absence in both instances of albumen in the urine. This feature is interesting. Although, as I have before said, albuminuria must be taken into account in the production of the nervous difficulties which affect the apparatus of vision, yet muscular paralysis, and even the convulsive phenomena, such as those by which our patient of No. 9 was attacked, and such as those still more severe which have been noted in the case of Dr. Millard's little patient, cannot be referred to albuminuria.

The physicians who have devoted their attention to the examination of this fact, Dr. Maingault in particular, have reached this conclusion: that diphtheritic paralysis does supervene in the case of individuals who have not had albuminuria at any period whatever of their disease; it was so in the cases observed by Drs. Pérate and Millard, and with one woman of the Ward St. Bernard; although, upon an attentive examination of her urine every day, we may have had notable variations in the quantity of albumen which it contained, we have never detected any coincidence between the diminution of these quantities and the variations which we saw produced in the paralytic phenomena. Moreover, gentlemen, Dr. Maingault has very justly observed that the nervous accidents which are manifested in the course of Bright's disease do not in any manner resemble those we are now considering; these are convulsive or comatose accidents; with the exception of amaurosis, which is met with so frequently, not to say always, in those affected with albuminuria, no one has noticed symptoms of paralysis.

Diphtheritic paralysis is not therefore dependent upon albuminuria, nor is it at all in proportion, and this is still more worthy of remark, either with the intensity, or with the extent, or with the persistence of the local manifestations characteristic of the disease. Doubtless most generally it is consecutively to the severe form of diphtheria, to those anginæ complicated with membranous coryza, with those ganglionary chokings of such sad significance, and with plastic exudations appearing at different points of the surface of the body, that the accidents which we are considering show themselves; but in other cases, and these cases are now no longer rare, these singular disturbances of innervation manifest themselves in individuals who have been attacked by diphtheria only, in appearance of the very mildest form. Dr. Maingault has called to mind a number of cases of this sort; paralytic accidents more or less general, more or less persistent, succeeding pellicular affections confined to the pharynx, and often limited to very small surfaces; sometimes, it is true, the false membranes had obstinately resisted cauterizations; and sometimes, also, and this indeed was oftenest the case, they had promptly disappeared.

Gentlemen, some of you have perhaps still in mind the history of that patient whom we had at No. 19 Ward St. Agnes, and who presented to us an example of diphtheritic paralysis following upon an angina which had assumed all the characteristics of a membranous angina of the very mildest form; he was a stevedore, twenty-four years of age, and a man of vigorous constitution. A month before his coming to the hospital he had been seized, in consequence of a chill, with a shivering fit, with fever, and very violent sore throat. At first he remained at home three days without doing anything; then he entered the Hôpital Beaujon, where he was placed under the care of Dr. Gubler. My colleague, whose experience in such matters cannot be put in doubt by any one, discovered the existence of a common membranous angina of guttural herpes. The urine, attentively examined, was not albuminous. Recovery was rapid; however, a few days later, this man had the nasal tone of voice and difficulty of deglutition; drinks coming out through the nose when they were swallowed at all hastily. Nevertheless, he insisted on leaving the hospital, and resumed his wonted labors. Paralysis of the veil of the palate continued, and the patient complained constantly of being cold. Eight days after he felt in his right hand a painful numbness; the following day the left hand was smitten; still another eight days after, feet and legs were in their turn struck with this paralysis; walking was painful and tottering. You remember in what condition we found him, when, a month after the commencement of his angina, and about three weeks after the beginning of the paralytic accidents, he came to Hôtel Dieu.

He stumbled at every step; he did not feel the ground on which he placed his feet, and was obliged to look at his feet in order not to fall. According to the dynamometer of Dr. Berg, he gave twenty kilogrammes of pressure with the right hand, and twenty-one with the left, while a man of his age and strength gives ordinarily from fifty-five to sixty. We found anæsthesia and analgesia over the entire surface of the body; the right side of his face was numb; there was neither strabismus nor amblyopy; his intelligence was perfectly clear. This person told us, moreover, that he had completely lost his venereal desires, and that for a month he had had no erections. The bladder and the rectum performed their functions regularly. The digestive organs were unimpaired. We instituted a tonic medication; we gave him preparations of iron and of quinquina. Later we prescribed the syrup of the sulphate of strychnine; then we resumed the ferruginous preparations, and when the patient at his request left the hospital, after having been here about two months, his strength was sensibly returning; the day before his departure pressure on the dynamometer reached thirty-two to thirty-four kilogrammes.

This is an instance of an angina presenting all appearances of guttural herpes followed by paralytic accidents absolutely similar to those which supervene after the severest diphtheria. We may be allowed to ask, was this angina indeed veritable herpes of the pharynx? At the same time that it assumed this form, was not the sore throat dependent upon the same principle which, in others at the same period, led to the development of anginæ purely diphtheritic? I have told you, gentlemen, upon another occasion, that the aspects of diphtheria are excessively variable. Comparing what occurs in this disease with what takes place in small-pox, which we see sometimes confluent, sometimes discrete, sometimes characterized by the appearance of one or two pustules; with what takes place in scarlatina, in which the specific eruption may not appear, I have told you that in diphtheria the manifestations of the disease might be very different, although always referable to the same cause; that the morbific germ remaining the same, its fruits are often modified by the soil into which it has fallen. I have reported to you in this connection the cases cited in the memoir of Dr. Peter, which seem to demonstrate this diversity of forms of this disease.

Although skeptics may see in this only a matter of coincidence, yet it must be confessed that this coincidence is at any rate very singular. Consequently, in view of these facts, and of others analogous which I have cited to you, have we not the right to ask, not only whether the common membranous anginæ which are followed by paralysis, as in the case of our patient of No. 19 Ward St. Agnes, were not in reality diphtheritic anginæ, but may we not also ask whether the anginæ, to all appearance the most simple, which give rise to paralyses of the veil of the palate, two instances of which I have lately observed, one that of a man fifty years old, the other that of a young girl of fifteen, a patient of my friend Dr. Leon Gros; whether these anginæ, I say, simple in appearance, may not spring, in some cases, from the same cause as the preceding, especially when they appear during periods of diphtheritic epidemics? We can therefore understand how it is that after common membranous anginæ, as after simple anginæ, paralytic accidents may occur exactly as after diphtheritic anginæ.

It remains for us now to search for the interpretation of the facts which I have just set forth before you. What is the *nature of this paralysis?* Is it possible to refer it to an appreciable material lesion of the nervous centre? No, assuredly. If we consider merely the aspects of the phenomena, this supposition is inadmissible; for we could not reconcile with a persistent anatomical lesion the variability and mutability of the symptoms which must spring from it; we could not suppose that these paralyses could be so completely cured as they are if there was a softening, a hæmorrhage, or any other cerebral or rachidian organic affection. Autopsies, moreover, have sufficiently illuminated the subject, and we have ourselves had occasion to verify the fact that there did not exist, either in the brain, or in the spinal marrow, or in their envelopes, anything which could give an explanation of the accidents observed during life.

There therefore takes place in diphtheritic paralysis something analogous to that which we see occurring in certain cachexiæ.

The first idea presented to the mind when albuminuria had been noted in diphtheria, must have been to attribute to it these disturbances of innervation. I will repeat to you, gentlemen, what I said just now: on the one hand, the nervous accidents succeeding diphtheria, except the disturbances of vision, which persons attacked with Bright's disease also experience, the paralytic nervous accidents do not resemble in any respect the convulsive or comatose phenomena of uræmia; on the other hand, I repeat again, in even quite numerous cases of diphtheritic paralysis there has never been found, at any period of the disease, the slightest trace of albumen in the urine. Still elsewhere, therefore, must we look for our interpretation.

Graves, in his *Clinical Lectures*, wishing to show the relations existing between different diseases, reports several well-known facts, which present a great analogy with those which we are studying. He states that an entire ship's crew, after having eaten the flesh of a species of conger-eel, were seized with nervous difficulties similar to those resulting from lead-poisoning. Some of the men died in a violent delirium; those who survived were affected by general paralysis. Some could not be freed from it; others recovered after three or four months. Three or four months, mark that; exactly as may happen in diphtheritic paralysis. Werloff and Foster speak also of paralyses following in the train of diseases themselves caused by the operation of certain other poisons.

Facts analogous to the foregoing are not rare in pathology. As to *urticaria,* I have told you, that we sometimes saw paralyses occurring in individuals who had been affected by fever. These paralyses are more commonly observed in the train of other diseases. In *syphilis,* independently of the paralyses which result from gummy tumors of the brain, and of the marrow, or from bony tumors of the cranium or the rachidian canal, there are also others which do not in any manner spring from an appreciable lesion. An individual actually occupying bed No. 22 Ward St. Agnes will furnish us a proof of this. I refer to the man attacked with an old constitutional verole, who complains of numbness, of pricking, itching sensations, of weakness, of a sensation of cold exclusively limited to the right leg, although the arm and the entire corresponding side of the face and of the trunk presented no anomalous features.

But it is principally after severe fevers that these paralyses are still more generally observed. Call to mind, gentlemen, a woman of No. 9 Ward St. Bernard, who, two years ago, was taken with paraplegia, subsequent to small-pox. These accidents are frequent in these exanthematous pyrexiæ. The rachialgia which announces its commencement, the paralysis of the lower limbs, the retention of urine which in a great number of cases—I insisted on this point when treating of the history of small-pox—accompany the lumbar pain, are phenomena of the same order. The paralytic accidents which are reproduced after the cessation of the eruptive fever spring from the same cause.

Some of you, gentlemen, will doubtless recollect those two patients of the Ward St. Bernard who were smitten with paraplegia after typhoid fever. In one of our conferences devoted to this disease, I pointed out to you these paralyses as among the disturbances of innervation, which may indeed obstruct convalescence from *dothienentery.* I told you that these paralyses, sometimes general, acting upon the motive power and the sensibility, affected the apparatus of the senses, the sight and hearing, (patients remaining deaf and blind,) and sometimes also were localized in the lower limbs, in the bladder, or the rectum. These accidents present a remarkable analogy with those which we are observing in diphtheria; the analogy is so much the more striking for the reason that sometimes the paralysis following putrid fever may attack the veil of the palate.

These paralyses also occur in the course, and after the cure of typhus and of cholera; in a word, in the diseases which have introduced grave perturbations into the human organism, by profoundly disturbing the nervous system. If to explain them we invoke the prolonged sufferings endured by the patient, the condition of weakness and of anæmia into which he has fallen, either by reason of the fever itself, or in consequence of hæmorrhages, and of the abundant fluxes which may have exhausted him, or finally in consequence of the rigorous diet to which he may have been restricted, clinical experience shows us that this debility plays but a secondary part, and that these paralyses are a direct effect of the morbid cause; they are due to the organic and functional modification impressed upon the entire apparatus of innervation by that morbific cause, which, having primarily and directly acted upon it, continues to operate during the entire duration, and even after the cessation of the disease.

Here, therefore, gentlemen, are poisons, as in the cases cited by Graves; here, on the other hand, are the infectious germs which determine the accidents analogous to those which we observe in diphtheritic paralyses; I say analogous, and not identical; the very same effects are produced in consequence of intoxication by mineral poisons.

When, at another time, we shall consider the saturnine affections, you will see that *lead-poisoning* produces disturbances of innervation, among which paralysis occupies an important place.

When treating of the question of specificity, I told you what were the accidents experienced by individuals who worked at the manufacture of vulcanized caoutchouc; I spoke to you of the effects of the inhalation of sulphureted carbon; and among the symptoms so perfectly described by Dr. Delpech, who first made them known to us, I pointed out to you weakness of the muscular powers, incomplete paraplegiæ, disturbances of sight and hearing; in a word, varied paralyses.

Well, diphtheritic paralyses are phenomena of the same order, and in fine their real cause is in the empoisoning, the intoxication of the economy by the morbid principle which gives rise to the disease on which these accidents depend; they are due to the perturbations experienced by the nervous system, to the change it has suffered; a change which we do not at present understand, and which we shall perhaps never understand.

It would be difficult for me to formulize the *treatment* to be opposed to these paralyses. In a general way, a tonic and restorative medication should be chiefly used; therefore you see that I give to these patients quinquina in all its forms, the bitter and the ferruginous; you see that I insist upon the necessity of substantial and reparatory nourishment. According as the case may be, I stimulate the functions of the skin by the employment of aromatic lotions, by dry friction, by sulphur baths. When the accidents seem about to terminate, the preparations of nux vomica have appeared to me to render real service in appropriately exciting the contractile powers of the muscles; sea-bathing has also been indicated to bring convalescence to a happy conclusion, and I do not doubt water treatment, methodically used, would be of incontestable utility.

EDITORIAL AND MISCELLANEOUS.

— "If there are quacks who seem to stand up high, it is simply on account of the numerous flats that surround them."—*Punch.*

— Homœopathy at last is on the wane. It certainly has had its day—and its sway—long enough. In a very few years it "will be forgotten—will decay like Mesmerism, Spirit-rapping, Table-turning, and other 'illusions by which Quackery draws profit from the Wonder of Ignorance;' or, if it be preserved from total oblivion, it will only be by the phosphorescent gleam of rottenness which serves both as a guide and a warning to all who study the History of Popular Delusions."

In this country, Dr. John C. Peters, long the chief editor of the

North American Journal of Homœopathy, and recognized leader of the tribe, has led the way in renouncing, and, in fact, severely denouncing, the doctrines he has hitherto professed. In a recent letter to the *American Medical Times*, he deals a fatal blow at that most absurd and flimsy system of charlatanry; and already a number of his fellow "practitioners" have emulated his example.

In England, the question of consultation with Homœopaths has been caustically discussed, and medical men more or less implicated as "consorting" with them, brought to account for their delinquencies. The sky has been cleared; and the "only man of any eminence who ever has attended cases with them openly and avowedly, now yields to the opinion of his professional brethren." The prominent surgeon, Mr. Fergusson, who is the one referred to, has, in a letter to the *Medical Times and Gazette*, distinctly and unqualifiedly promised for the future "to decline any meeting, or so-called consultation, with Homœopathic practitioners."

— The manuscripts of both the long-expected volumes, the revised "United States Pharmacopœia" and the new "British Pharmacopœia," are reported as approaching completion. The labor on each is immense, not only in compiling, but in reconciling varying opinions. The latter work will probably be issued about the end of this year; the former certainly not before the early part of the next.

— The eminent physician, M. Trousseau—whose unsurpassed Lectures on Diphtheria are gracing the pages of the MONTHLY—was lately summoned to a patient in Naples, and agreed to go for a fee of £1,600. When he reached the place, the patient was dead. The stipulated fee was paid.

— On the 16th day of this month, the twenty-eighth session of the Scientific Congress of France will be held at Bordeaux.

— Dr. Agenti, of Padua, has been amusing himself by endeavoring to ascertain at what hour death most frequently takes place. From observations on 1,947 individuals, it results that the deaths preponderate somewhat in the post-meridian period over the ante-meridian; the greatest number occurring at 11 o'clock at night; the greatest number in the day also occurring at 10 and 11 o'clock.

— *The first Fasciculus of Von Hebra's Atlas, and also the first volume for* 1861, *are ready for delivery to the subscribers of the New Sydenham Society, by application to Dr. C. F. Heywood, No.* 66 *West Twentieth Street.*

THE AMERICAN MEDICAL MONTHLY.

OCTOBER, 1861.

ESSAYS, MONOGRAPHS, AND CASES.

Kristeller's Improved Obstetric Forceps—(*"The Spring Forceps."*) (Read before the New York Medico-Chirurgical College.) By L. Elsberg, A.M., M.D.

Mr. Chairman and Fellows—I desire to call your attention to an *Improved Obstetrical Forceps.* That to do seems to involve temerity, as the undertaking must be deemed hazardous, I am aware. It is true, since the ignominious Chamberlen's Grand Invention has come into general use, every year, on an average, has brought forth at least one modification of the instrument; and, as Ramsbotham says, "whim, caprice and fancy (and perhaps also some little lurking desire for professional distinction) have suggested an infinite variety of forceps," but few of which can really be called improvements. Indeed, even to look at the multitudinous forms and dimensions devised, "is enough," —to use the language of our own Meigs—"to excite a smile at the ambition which proposes to build up a solid reputation, by rather spoiling than improving an implement already perhaps perfect." And Keating, too, is right, inasmuch as "every accoucheur of any eminence"—and many a one without—"has deemed it essential to his reputation to improve this instrument." I hasten, therefore, both to assure you that the improvement I wish to present to your notice is a real one, and to state at once that I am not its inventor. No essential change has been made in the forceps proper, *i. e.*, in the cochlea, nor in the lock. The improvement consists in providing the handles with dynamometrical spiral springs, for the purpose of measuring the amount of tractile force exerted in the instrumental delivery. The inventor of this truly ingenious contrivance is *Dr. Kristeller*, of Berlin, whose communication thereof to the Obstetrical Society of Berlin on the 22d of November last, is published in the "*Monatsschrift für Geburtskunde und Frauenkrankheiten*," for March, 1861. I have modified it in several minor particulars, to render its practical employment more convenient. It can be attached to the handles of almost any form of forceps, and is manufactured by the instrument-makers, *Otto & Reynders*, of this city.

Hitherto, as Dr. K. justly remarks, the degree of traction could be measured only by the subjective feeling of the operator; and indefinite expressions formed the scale. Thus, "gentle," "slight," "moderate," "considerable," "strong," "exhausting," and the like, are the words by which operators distinguish in their own mind the difference in degree of an extractive effort, and by which the text-books endeavor to describe and teach it. Now, such expressions have, of course, no absolute value. They must be considered in relation to the personal strength of the operator, and to the bodily and mental condition of freshness and excitement, or exhaustion and depression, in which he accidentally happens to be at the time of the operation. Nay, more even: experience, and peculiarities of individual practice, will modify their appreciation; for the physician who practices, for instance, in the country, in a less cultivated district, or who sees more delayed and aggravated cases, will certainly have different ideas as to what is an "easy," or a "powerful and difficult" forceps extraction, than the one who practices in the city, etc.

The introduction of an accurate objective "force measurer," in forceps operations, is, in my estimation, of both scientific and practical importance. That the mechanical arrangement, as here exhibited, is perfect in every respect, without any drawbacks in its use, I do not affirm. Dr. Kristeller's is the first forceps dynamometer ever devised, and I trust that its employment will in the future point out imperfections where they still exist, and lead to improvements where they are needed. But this instrument certainly answers the purpose sufficiently to deserve the favorable notice of all who have the advancement and interests of the science, or the art, of obstetrics at heart, and the preparation by me of this account, which I render almost entirely in the inventor's own words, and its presentation to the College, needs, I hope, no apology.

Description of the Instrument.—The handle of each blade consists of two parts; one movable, the other fixed. The fixed part (*T*) is a strong steel plate, which forms the continuation of the cochlea. The movable part (*F*) is a half-cylinder of brass, the plane surface of which is applied to the outer side of the steel plate in such a way that the half-cylinder can freely glide up and down the plate, but can move in no other direction. Above, the half-cylinder is closed by a notched projection, (*A* and *B*,) intended to give support to the fingers of the operator; below, the cylinder terminates in the ordinary knob, (*C* and *D*.) Within the half-cylinder lies a strong, steel, spiral spring, riveted above to the notched prominences, over which the fingers are to be hooked during traction, and below to a bracket, (*E*,) which is fixed immovably to the steel plate. When the operator makes traction, his right hand upon the prominences, and the left upon the shafts of the handles, the movable half-cylinders are drawn down, and the spiral springs are compressed until their elasticity and the force employed neutralize each other. A graduated scale, (*h i*,) attached to the lower portion of the handle, indicates the amount of such compression, or, in pounds, the force exerted.

(The spaces on the forceps here exhibited, however, mark millimetres, but the power exercised has been calculated by kilogrammes, and thence by pounds. Thus, the traction which compresses the springs of this forceps 16 millimetres implies a pulling power of 30 kilogrammes, or about 80 pounds; compression to the extent of

								Troy.		
1	millimetre	indicates a	power of	5	kilograms,	=	13 lb.	4 oz.	6 dr.	10 gr.
2	“	“	“	7½	“	=	20 “	1 “	1 “	15 “
3	“	“	“	10	“	=	26 “	9 “	4 “	20 “
5	“	“	“	12½	“	=	33 “	5 “	7 “	25 “
7	“	“	“	15	“	=	40 “	2 “	2 “	30 “
8	“	“	“	17½	“	=	46 “	10 “	5 “	35 “
10	“	“	“	20	“	=	53 “	7 “	0 “	40 “
11	“	“	“	22½	“	=	60 “	3 “	3 “	45 “
12	“	“	“	25	“	=	66 “	11 “	6 “	50 “
14	“	“	“	27½	“	=	73 “	8 “	1 “	55 “
16	“	“	“	30	“	=	80 “	4 “	5 “	0 “
18	“	“	“	32½	“	=	87 “	1 “	1 “	5 “
20	“	“	“	35	“	=	93 “	9 “	3 “	10 “
21	“	“	“	37½	“	=	100 “	5 “	6 “	15 “
22	“	“	“	40	“	=	107 “	2 “	1 “	20 “)

On the left blade there is a second scale, (*k l*,) to which a brass plate (*o p*) with a projecting point (*o*) is adapted in the manner of a nonius, to serve as the index for the maximal force of the traction. The plate glides down along the scale just as the half-cylinder moves down; but when the traction is diminished it does not move up again, but remains stationary at the lowest point, thus making the maximum power exerted.

Whenever the circumstances permit, the increase and diminution of extractive power can be observed on the scale (*h i*) between the separated fingers, or below the hand, during the effort. Where such constant observation is impossible, the other scale indicates, after one or more tractions, what has been the greatest force exerted. After noting the maximum power, the index must of course be pushed back to the zero point.

It suffices to attach a scale on one blade only, as both sides must indicate the same power. (This must of course not be lost sight of in determining the correspondence between the millimetre spaces and weights; *i. e*, care must be taken to have both handles equally pulled down.)

Each branch of the forceps is provided with a stop, (*z*,) a little bolt that can be pushed by means of a knob (*s*) through both the movable and fixed parts, firmly uniting them, and thus abolishing the dynamometric power of the instrument. By this means the blades can at once be converted into an ordinary obstetric forceps. The stop of the right branch is above, that of the left below, and both can be opened and shut with great ease with the thumb and index finger.

The cochlea of the instrument here exhibited has centimetre marks, deeply enough cut into the metal to indicate to the touch the spaces through which the forceps moves in its passage from the pelvis. The weight of the whole forceps is about 1⅓ pound.

Explanation of the Figures.—Fig. I., view of the forceps, a little less than half the natural size. *F*, movable part of the handle. *T T*, continuation of the cochlea. *h i*, upper scale. *k l*, lower scale. *o p*, index of the maximum force of the traction, in its position represented as showing 10 millimetres. *z*, stopping-bar; *s*, its knob. *y*, opening in the movable part of the handle, to receive the bar *z*. *x x*, centimetre marks on the cochlea.

Fig. II., section to show the internal mechanism of the instrument. The fixed portion of the handle, T T, has a slit from *u* to *v*. In this opening is placed the brass button, *q*, which is firmly attached to the half-cylinder, *F*, on one side, and to the brass plates, *m n*, on the other. To show the parts better, they are drawn a little apart from each other: *in natura*, *m n*, as well as *F*, are closely united to T T, so that the sliding motion of *F* along T T is insured. *r* is a button similar to *q*, and *o p* a brass plate like *m n*. But *r* is *not united* with *F*. *r* also slides in *u v*, and is moved when *n* pushes against *o*.

Fig. 1.

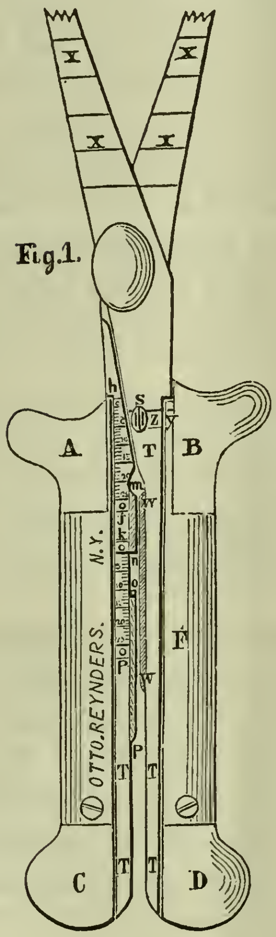
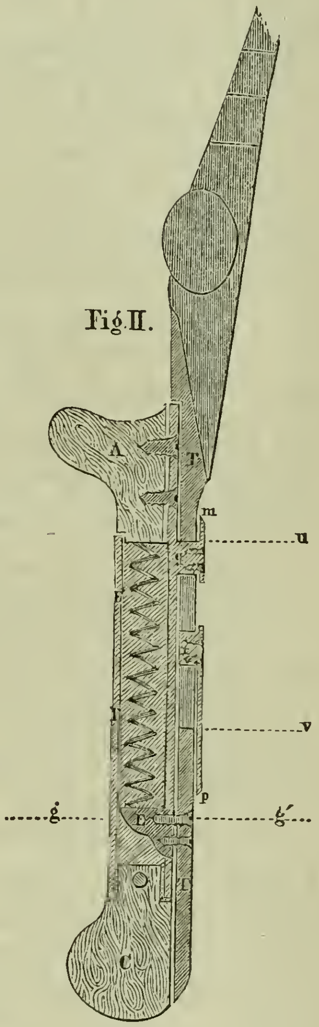


Fig. II.



While *m n* is brought back to its place by the spiral spring, *o p* remains stationary at the lowest point to which it is pushed, and thus indicates the maximum power. *w w*, in Fig. I., is a brass plate like *m n*, firmly united to the half-cylinder, *F*. When *n* and *o* touch, *m n o p* forms as long a bar as *w w*. E is the bracket screwed to T.

Fig. III.

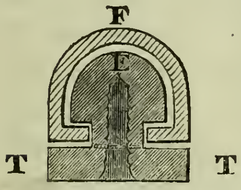


Fig. III. is intended to show how the half-cylinder, F, incloses the bracket, E, and how it moves. The cut represents a section of the handle in the line *gg'* of Fig. II. T, E, and F refer to the same part as above. This is nearly full size.

It should be observed, these cuts were finished before the slight modifications, which the apparatus has undergone, had been made.

Use of the Instrument for the Description of Forceps Operations.—In view of the high position as an exact science which Obstetrics is capable of attaining, every method of enlarging our mathematical knowledge and appreciation of the mechanism of labor and obstetrical operations is entitled to attention. It is of the utmost importance to be able to substitute for vague and indefinite notions clear and definite perceptions; and in no way can this be accomplished with more certainty than by referring, in proper cases, indistinct ideas and expressions to the exact standard of numbers, the meaning of which is unchangeable, and the values of which any one can at any time make clear to his own mind by actual experiment. Especially must it be of advantage to be able to define, in accordance with an objective standard, the difference in degree of so important an action in midwifery as the forceps operation.

Having effected a forceps delivery, how—let us inquire—can we determine or describe the difficulty attending it? We can describe, first, the dynamic and mechanical circumstances of the case; secondly, the number and duration of the tractions made; and thirdly, endeavor to estimate according to our subjective sensations the amount of force employed in the operation.

As to the first point, in the account of the obstacles to natural labor, it is mainly the relation in space of pelvis and child, that we can denote with numbers. But the measurement of this relationship does not suffice to define the difficulty of a forceps operation. There is wanting *one* factor, namely, the compressibility of the head—a link of so much importance, that it may safely be affirmed that, as long as we have no means of taking it into the account, the numerical notation of pelvic and head measurements does not possess its full, or any absolute, value; for it is plain that only the combination of these measurements with the amount of compressibility can give the true result as to the degree or amount of obstacle present.

As far as the second point is concerned, we certainly can render an account of our efforts at extraction, in reference to their number and duration. Indeed, many obstetrical authorities actually denote the difficulty of any forceps operation by the number of tractions required, or lay down as a limit to justifiable efforts a certain number, not to be exceeded. The measurement of the time occupied with each traction has not been taken so much into consideration. But do both circumstances combined, suffice to define the difficulty of a forceps operation? Assuredly not! Both depend on the state, at the time, of strength of the operator; for is it not self-evident that a weak or tired operator produces the same effect as to extraction by a greater number of tractions—each probably, too, lasting a shorter length of time—than a stronger man?

Finally, as regards the estimation of how much strength has been employed in the operation, it must be admitted that the vague expressions hitherto in use do not answer for a scientific definition, and that the very estimation is attended with numerous sources of error. To estimate a traction in a horizontal direction, and denote its strength in pounds, transcends the ordinary experience of any man; and numerous experiments with the dynamometer have proved the utter unreliability of subjective sensation, or estimation, after even long-continued practice. The exertion felt, and believed to have been made, bears no constant proportion to the traction actually objectively accomplished, nor is the maximum value of our tractile power more constant. *The only exact means of measuring a traction is the introduction of a dynamometer between ourselves and the object upon which our tractile power is exerted.*

Accurately to determine the character of a forceps operation, then, we must know, besides the dynamic and mechanical circumstances of the labor, and besides the number and duration of the individual tractions, the dynamometrical amount of tractile power which the operation required. So described, its essential features are defined; and only thus defined, can it become the subject of scientific investigation and communication; *i. e.*, of methodized knowledge.

There is one point, however, which we have not yet taken into consideration: we cannot but admit that the measurement of the traction does not define the *whole extent* of the mechanism of labor. There still remain *unmeasured* the actions that result from our making use of the leverage of the united blades. Now, these transverse, pendulum, and rotatory movements are in reality but little more than means of improving the position, and should be, perhaps, far more sparingly employed than they are. But even the most ardent advocates of the constant applicability of these lever movements must admit, first, that these movements are always made with more or less tractile force; and secondly, that traction is, after all, the most important action in the mechanism of the operation, and that the main exertion of the operator is expended on the performance of this action. The proposition that we have laid down remains, therefore, unchanged: The measurement of the traction power defines the difficulty of a forceps operation in its essential characters; and the figures thus obtained are of great importance in the scientific study of the mechanism of the operation.

Practical Use of the Instrument.—Having considered the use of the dynamometer from a scientific point of view, *i. e.* as far as regards the theory and description of forceps operations, let us see if it is not also of practical use. One of the highest obstetrical authorities in Germany and in the world, W. J. SCHMIDT, while describing the dangers of violence in the operation, says: "Every practitioner who uses the forceps should accurately know the amount of power at his service." (Heidelberger Klin. Annalen, Bd. I., p. 69.) Should he, then, we must ask, not gladly avail himself of means by which he can at any time find out the exact amount of power exercised? To the young practitioner, especially, the spring forceps under consideration will prove a great desideratum: it not only shows him the force expended, but offers also the best means of learning to make the traction efficiently and *secundum artem.* "The effort at extraction should rise slowly and not too high; for a while steadily remain at the same height, and again slowly sink. In this way it best imitates a labor-pain; and such traction does not interfere with the natural mechanism of labor, for with it the head can freely move in the axis of the pelvis." Now this accrescence and decrescence of traction can be produced accurately and with certainty with the use of the index, and its proper performance is materially aided at the beginning as well as termination of the traction by the elasticity of the spiral springs, which must serve to diminish, to some extent, the injurious shock of jerking movements.

But the most experienced may also derive benefit from the knowledge of the amount of tractile power he is exerting. The scale may serve not only to warn him from employing too much force, and therefore violence, but in difficult cases to give indications of great importance in the progress of the operation.

As to the first advantage, it hardly admits of a doubt that many an injury to the mother, aye, even many a fatal issue, would not have occurred, if the operator had realized the amount of force he used. We must recollect that the iron instrument can impart no sensation to our hand of any injury that may be done the woman; and do we not know that forcible attempts, violent efforts, may bruise, may lacerate, may destroy? Should there, then, be no limit? One of the Fellows of this College, an eminent obstetrician, said to me but recently, he "pulled till I (he) got the child out;" but is there really no limit to be assigned to the violence to the soft parts which this necessarily implies? Again to cite SCHMIDT: "Should everything depend upon the individual strength of the operator, who may, perhaps, triumphantly with the forceps extract a dead child, while the delivered woman dies?" *How great the force is that can be exercised* appears from the fact that I, whose bodily strength is certainly not more than the average, can, with exertion, accomplish a traction of 150–160 pounds. *Experience, it is to be hoped, will in time furnish certain Warning-Numbers beyond which the conscientious operator should go only after carefully and accurately considering all the circumstances of the case. Such Warning-Numbers are the more needed when anæsthetics suppress the Warning-Cries of the endangered parturient.*

Again, from comparing the traction force exerted with what it accomplishes, that is, by determining whether, how, and how much the head is moved, certain indications may be derived. (In this connection I wish, *en parenthèse*, again to refer to an auxiliary method of measuring the outward movement of the head by centimetre marks on the fenestra, already mentioned in the description of Kristeller's instrument.) If it is found that the head is coming, the amount of traction should be endeavored to be, as much as may be, diminished, for *the least possible force requisite to accomplish the extraction is the one we should aim to employ.* When no movement of the head occurs with say 45–50 pounds steady traction, the operator should diligently anew inquire into the case, to see whether no dynamic circumstances exist that first require other therapeutical means; whether the position had not first better be improved; whether the traction must not perhaps be made in a somewhat altered direction, as would be the case, for instance, if an inclination of the anterior wall of the pelvis existed, etc. Another circumstance that the operator should well weigh is, whether his individual strength suffices for the necessities of the case, or whether, tired out by previous exertions, he does not in the continuance of the operation bring less available force to bear than in the beginning; it is evident that if in a number of tractions properly performed, the expenditure of 50 pounds power has been fruitless, the tired operator need not expect to be successful with 45 or 40 pounds, which, indeed, can then accomplish only protraction and useless contusion of the soft parts. In such a case the indication is to desist, for a while, from the operation, to gather new strength, or if there is danger in delay, to let an assistant take the operator's place. Let not any one think that he could recognize the giving out of his strength and a difference of execution between 50 and 45 pounds, without independent measurement. A man tired out and affected by the length of time the operation has lasted, and the importance of the case, cannot estimate by his subjective feelings even the *more* or *less* of what he objectively accomplishes. It is true, a man ever so tired may, by a sudden or short jerk, make a maximum pull far above the number of pounds named. But such jerking does not constitute a proper forceps traction, and is always dangerous. Manipulation, according to the rules which the most enlightened experience has established, is alone admissible; a proper traction requires the exercise of steady power, and for this 50 pounds is no very small figure. The clinical employment of the dynamometer certainly proves that to perform for any length of time proper forceps tractions of 50 pounds steady power, requires full strength and freshness; and that tractions of 60–70 pounds indicate a quite difficult forceps delivery.

On a Disadvantage arising from the ordinary Construction of Lateral Prominences on the Forceps Handle.—Incidentally I wish now to call attention to a difference in the position of the notched prominences on the two handles. This constitutes an improvement applicable not only to this forceps, but to all such as have, below the lock, any contrivance, either notches like this, or rings like Bedford's and others, to give purchase to the index and middle fingers during the extraction. The objection to the ordinary mode of construction was discovered by the use of the dynamometer, and the improvement, or at least the knowledge of the objection, and the possibility therefore of avoiding it, is justly to be regarded as one of the practical advantages resulting from the invention.

In experimenting with the spring forceps, with prominences as ordinarily placed, Kristeller soon observed that the spiral spring in the handle of the left branch (upon which the index finger acted) was pressed together eight millimetres before that on the other side was acted on at all, and that it remained eight millimetres ahead during the whole traction. Now, since this space here corresponds to a power of about 24 pounds, it is evident that a tractile power of 12 pounds was acting on the left blade before the right was influenced. Such a condition must have the following injurious effects on the mechanism of the operation:

1. The long axis of the forceps is pushed out of the line of conduction through the pelvis. To prove this, it is only necessary to freely suspend the forceps perpendicularly, and to load the left prominence with 12 pounds and the right with no pound. The turning of the handle towards the right side will be evident enough.

2. A slight lever action of the combined cochlea results with the turning of the head on the axis of a straight diameter of the pelvis.

3. A greater friction of the right fenestrum against the right side of the mother ensues.

This injurious condition is not only permanent in itself, but becomes proportionally increased, the stronger a tractile force is exerted.

The operator, of course, *in praxi*, corrects the deflection, by pulling the axis of the forceps back again into the line of proper direction of the traction; but it is evident that, the correction being made with the left hand, the latter must expend the more power on this lateral pulling the greater the traction is that is made with the right hand, and thus there is produced a counteraction between the right and left hands, which causes a loss of power, and may possibly lead also to a greater compression of the head, than is either necessary or useful. On reflecting as to the cause of this difference of action on the right and left blades, it was found to depend upon the fact that the first phalanx of the index is about 8 millimetres shorter than that of the middle finger. To remedy the trouble, the lateral projection of the right blade was placed 8 millimetres higher up than that of the left, so as to adapt the position of the prominences to the anatomical relations of the hand; after which change, both blades were equally acted on. Now, as this deflection occurs with all forceps that have supports for these two fingers placed at equal height, (for although the ordinary forceps does not indicate it, like the dynamometric spring forceps, yet actually it exists,) it is suggested either that in all these instruments the right prominence be raised 8 millimetres; or else that, in using them, the middle finger be laid over the lock between the two cochlea, and the index and ring fingers, which are of about the same length, be laid over the projections, as *Martin* has recommended.

Here I wish to record, also, an objection that suggested itself to me, on my first acquaintance with the spring forceps. Early taught by the *Nestor of American obstetrics* to place the middle finger over the joint, and to keep the index finger always in contact with the child's head, *so that slipping of the instrument could impossibly occur unnoticed*, I would not be reconciled to the use of an instrument that did not admit of taking this wise precaution, because all traction must be applied below the lock. But the objection vanished with trials of the dynamometer; especially as—if, from circumstances in the application or locking, to take the precaution be deemed particularly necessary in any case—the instrument is only thereby at once converted into the ordinary forceps.

Use of the Instrument for the Differential Diagnosis of the Indication of Forceps and Cephalotryptor.—The advantages of a dynamometric apparatus for describing and for performing forceps operations have been sufficiently dwelt upon. Whether or not I have already convinced you that this addition to the handles of the instrument is "*more than a scientific toy*," and the results that may be expected to follow its employment *more than* "*theoretical data*" *and* "*mere matter of curiosity*," let us now turn to the question, Can it assist us, in difficult and doubtful cases, to determine the time when the forceps must be abandoned for the cephalotryptor? In discussing this question we shall regard the forceps as an instrument for extracting, only, and the cephalotryptor as an instrument for forcibly lessening the volume before extracting, the fœtal head, whether the latter be presenting or coming last, whether turning has preceded or not.

The means of determining whether cephalotrypsy must be performed are—

First, measurement of the pelvis. This is undoubtedly the most valuable means we at present possess; we can employ it both previous to, and, to a certain extent, also during the progress of parturition, and attain with it pretty exact results. Of great importance, however, are also the other factors on which the mechanism of labor depends; viz.: as to the mother, deformation or inclination of the walls of the pelvis, and dynamic and mechanical condition of the soft parts; as to the child, position of the head, its size, form, and compressibility. The measurement of some of these factors is very difficult, as, for instance, the circumstances relating to inclination of the pelvis; of others frequently quite impossible, as, for instance, the size of the fœtal head; while for some of them there is as yet no standard of measurement at all, as, for instance, for the condition and behavior of the soft parts of the mother, or for the compressibility of the head. Besides all these means of determining between forceps and cephalotryptor, there is the forceps itself. For the operator must prognosticate from the success of his tractions, whether he can overcome the obstacle to delivery with the forceps, or whether the cephalotryptor must be employed. In other words, the forceps is here no more an instrument for extraction than for sounding, as it were; for measuring the extent of the obstacle to delivery. It is, alas! but too true that the distinction between these two uses of the forceps is not always made. There are, 'tis true, operators who go to work with force and violence from beginning to end, "in whose eyes the parturient woman is but a machine on which a certain mechanical labor is to be performed, who know no higher aim of the forceps operation than the accomplishment of their work, without regard to the victims that are slain, and without conception of a worthier prize." A collection of the contusions, the mutilations and the slaughters produced by too long-continued, or too strenuously forcible forceps-pulling, would doubtless prove one of the darkest pages in the history of medical malpractice.

It is generally believed that with the smallest diameter of the pelvis reduced to from 2½ to 3¼ inches, the cephalotryptor will have in most cases to be had recourse to, while with the diameter from 3¼ to 3¾ inches, the forceps mostly suffices; the other factors to be of course duly taken into consideration in every case. But these other factors are estimated by uncertain, inaccurate, and ambiguous valuation only, as hard, tight, tense, rigid, soft, lax, dilatable, etc. Have many obstetricians ever reflected why the measurement of the pelvis is so predominant in pointing to the indication? Is the dimension of the pelvis the most important factor in the realization of the obstacle to delivery, or is the pelvis that factor that must specially receive therapeutical or operative aid? Neither of the latter questions can be answered affirmatively; for, the size and other physical relations of the head, the manner of its presentation and position, are of just as much importance as the condition of the pelvis. There are authenticated reports that compressible heads, at term, have been brought forth without sustaining any injury, by unassisted nature, where the smallest pelvic diameter was only 2¾ inches; it has often occurred that the same woman is naturally delivered, *per vias naturales*, of a living child, after having previously had to have the child removed by embryotomy, on account of too small pelvic diameter; and finally, it is well known that very large heads, or such with hard bones and tight sutures, or heads in certain malpositions, have rendered perforation imperative, even with normal dimensions of the pelvis. It is evident, therefore, that the head is as important an item, in the calculation, as the pelvis. Besides, the head is the very part to which we directly apply our therapeutical measures, whether we "wiredraw" it with forceps, transfix it with trepan and perforator, break it with osteotome, crush it with cephalotribe, or remove it with embryotomy-forceps, or hook or crotchet. Aye, if we could but devise a way to measure the size and compressibility of the head during labor, what a step in advance would obstetricy make! and, it is plain, the dimensions of the pelvis owe their importance simply to the fact that *they can be measured, and their mechanical influence determined and expressed by a clear, exact, and unmodifiable number.*

At the bedside, however, what conscientious and thinking physician allows himself to be always guided, in the selection of his obstetrical operation, entirely by a knowledge—even if it be the most accurate—of the dimensions of the pelvis? Does he not, in doubtful cases, first try his forceps? He tries it with all possible precaution; he tries it, in the manner before alluded to, as a sound, as an apparatus to measure the hindrance to delivery. But surely he will never perforate or crush a child's head; never perform what Ramsbotham calls "this dire, this terrible, this destructive and heart-rending operation," until his efforts with the forceps have convinced him that the extent of the obstacle to delivery is such that the forceps cannot, in that particular case, overcome it. "In these cases," says Meigs, "the operator, who alone can estimate the degree of force he employs, is the sole judge as to whether that force is too great to be compatible with the safety of the woman." And what, we ask, has the operator upon which to base judgment of such grave importance? Naught but his subjective notion, his vague idea of the amount of force believed to have been brought to bear in making his efforts. How uncertain these data are, has been shown before; *here the spring forceps now comes efficiently to our aid.* Its dynamometer accurately indicates the power exerted; and but one question remains: Does it thereby also designate the extent of the obstacle to delivery?

Nature is to expel, or the obstetrician to extract, the child's head through the mother's pelvis, or rather, genital canal. The mechanical expression of all the effects resulting from the active antagonism of the expelling (respectively extracting) forces and the resisting forces, is the friction between the head and the channel through which it is to move. This friction may be the resultant of the most diverse mechanical and dynamic causes; as, for instance, inflammation and spasmodic action of the uterus, narrowness of the pelvis, inflammation, tightness, dryness of the vagina and external genitalia, tumors of various kinds and in various locations, faulty position, size, hardness, swelling of the head, etc., etc. But of whatever nature the cause or causes in any case may be, and whatever other therapeutical or operative means may be necessary to overcome the existing conditions, it is evident that *the result of all concurring circumstances, the final expression of all the forces concerned, as opposed to the expulsive* *power of the uterus, or the tractile power of the extracting instrument, is friction between the child's head and genital canal.*

How can this friction be measured?

Whenever a body, like the child's head, is to be moved through a hollow, like the genital canal, the friction present, *i. e.*, the resistance met with, is expressed by a weight which just suffices to effect the moving through, *i. e.*, by a power that overcomes the friction. If, for instance, in the way of experiment, we should apply, in proper manner, to the unborn fœtus of a woman who had died in labor, weights that had gradually reached forty pounds, and this weight, we should find, was just sufficient to bring forth the fœtus, the friction, *i. e.*, the resistance, or obstacle to delivery, in this case, would have been forty pounds. Now, substituting for the gradual attachment of known weights the application of the dynamometer, we can justly arrive at the conclusion: *the scale of the spring forceps is a measure not only of the power exerted in the operation, but also of the amount of mechanical hindrance to delivery.*

In cases in which labor-pains are absent, or in which they are so feeble and inefficient that they may be called = 0, the dynamometrical number, at which our efforts at extraction are successful, proximately express the entire extent of the obstacle to delivery. Observations thus obtained will be of great physiological value, and combined with the measurements of head and pelvis, may allow calculation of the compressibility of the extracted head.

Of more importance, because difficulty, as to *practice*, are those cases in which, with or without the presence of labor-pains, our efforts at extraction are unavailing. The obstacle to delivery here is greater than the dynamometric number we have obtained; and the question may now be intelligently asked, Shall we use still greater force, or at once perform embryotomy?

Careful observations, when using the spring forceps, may soon lead to the determination of dynamometric numbers, which will have a similar value for diagnostic and prognostic purposes, as certain numbers of pelvic measurement. Both these sets of numbers will be of most practical benefit, when brought in relation with every single factor of the hindrance to delivery, and with the general condition of both mother and child. Let us hope that the future thus opened to the dynamometer may not be allowed to pass unimproved. May the whole profession test its applicability, and fully realize the indications of usefulness that it gives! May the benefits resulting from its use forever prove a monument to the assiduity of its ingenious inventor!

Report of Operations performed in the Eye Department of the Brooklyn Medical and Surgical Institute. By Dr. JULIUS HOMBERGER, Ophthalmic Surgeon of the Institute.

The Eye Department of the Brooklyn Medical and Surgical Institute has been in my charge since March last. Connected with it is a free daily clinique. In the following pages I shall render an account of the operations performed in the latter, reserving a detailing of medical treatment pursued, and a full report of the department, for some future time. I should yet state that most of the operations were performed ambulatorily; many of them on seeing the patient for the first time.

1. *Strabismus alternans. Hyperopia.* Margaret R., æt. 4 years. The squinting in this case was very great. When the left eye fixedly looked at an object, the cornea of the right was turned three and one-half lines more towards the inner canthus than that of the other, and *vice versa* the cornea of the left eye, when the right eye fixated an object. The strabismus had first been noticed some months ago, and undoubtedly resulted from hyperopia. A patient whose eye is hyperopic has very strongly to exert the compressing power of his ciliary muscle, in order to make the lens as convex as possible. Without this compression, the rays coming from an object would not meet on the retina, but be thrown far behind it. Now, with every effort of the ciliary muscle, a contraction of the recti-interni muscles is associated, and the hyperopic, when fixating objects very near him, has his interni muscles constantly contracted. This constant contraction soon makes him take to the habit of looking or fixating merely with one eye, and thus, after a while, a strabismus is produced.

Whether in this little girl the squint was already followed by a certain degree of amblyopy, I could not find out, as she could not yet read, but I do not think that such was the case, as the abnormity had existed only a short time, and the strabismus was of an alternating nature, so that both eyes were sufficiently often used.

I performed the following operation on the day the child was brought to me, (March 7, 1861.) I opened the conjunctiva with Cooper's scissors, half a line from the inner margin of the cornea, and separated it from the sclerotica and cellular tissues covering the muscle, by small incisions with the scissors. I then introduced a blunt hook, turned towards the place where the tendon of the rectus was to be found, and by passing the blunt point of the hook towards the sclerotica, always moving it in the direction of the tendon, I had the whole tendon in a moment lying on it; I now cut this as near as possible to its insertion. On introducing the hook again, to see whether I had left any fibre of the tendon uncut, I found I had not.

When the patient awoke from the chloroform narcosis, the strabismus proved to be a deviation of only one and one-half lines.

March 20th, I made a similar tenotomy on the other eye; and on the 2d of April saw the little patient entirely rid of her deformity, a very slight convergence excepted. This slight degree of convergence is equal to a perfect cure, as in the two or three months succeeding the operation, the effect of the latter increases a little.

2. *Blennorrhœa sacci lachrymalis chronica.* Fanny McC., æt. 42 years. This patient could, by pressing on her lachrymal sac, which formed a tumor in the angle of her left eye, make a certain quantity of, partly mucous, partly purulent matter, issue out of the superior canaliculum lachrymale. The inferior one was closed up, as I found when I tried to enter it with a conical sound. The trouble had existed for years. The patient never noticed any fluid running down her nose or throat, when she emptied the tumor. I concluded, therefore, that the nasal duct was also closed. The only advisable operation was, therefore, desolation or destruction of the sac; for even if puncturing and dilatation of the strictured ducts could have been performed, which was very doubtful, the patient would have had to take her chances of suffering greater and more serious inconvenience than the very slight one that follows the operation I proposed. The inferior canaliculum is of far more importance in the resorption of tears than the upper; and even if the nasal orifice would not have been closed, the resorption would have been very much interfered with. I opened the lachrymal sac, enlarged the incision, downward and upward, through the internal lachrymal ligament, and cauterized the whole cavity with solid nitrate of silver.

Carelessness of the patient rendered this first operation ineffectual; she did not return until a week later, when the operation was repeated, and was followed by complete success, inasmuch as only a few drops of tears now run over her cheek a day, while she is rid of all the annoyance her former condition entailed.

3. *Strabismus convergens alternans.* Alonzo G., æt. 16 years. The deviation in this case was only two lines. I made one large tenotomy; *i.e.*, I divided the subconjunctival tissue to a large extent, in order to have a large effect. March 11th, the conjunctival wound was entirely healed, the ecchymosis absorbed, and the patient perfectly cured March 24th.

4. *Cataractæ. Nearly mature, on the left eye; beginning on the*

right. Amblyopia. Mrs. J., æt. 42 years. Since early youth the patient had had weak eyes. She could, when I saw her, only read No. XVIII. or XVII. of Jæger's Scale, with her right eye. The opacity was not, as yet, great enough to explain so feeble a vision; but the patient said she had never been able to read small print.

I operated the left eye after Schuft's method of "scooping out." (See *Summary of Foreign Medical Literature,* MONTHLY, Dec., 1860.) I made a large iridectomy, reaching to the margin of the iris; entered with the second size of Schuft's spoons, and succeeded in getting almost the whole crystalline body out; a small part of it I could not take hold of, without, as it seemed after several trials, endangering the result of the whole operation. I applied a compressive bandage; no inflammation of any account followed. I discharged the patient after eight days, but let her keep the eye bandaged for three weeks longer. She could, after that time, read Nos. XIII. and XIV. with concave glasses. The part of the lens I had not succeeded in getting out was still seen on the margin of the piece of the iris I had cut out, but gave the patient no trouble, as the pupil was perfectly large enough.

5. *Symblepharon partiale.* John U., æt. 14 years. The patient had burnt his eye with lime. After the inflammation had, by appropriate treatment, subsided, and the cornea cleared up as much as it could be expected to do, I divided the adhesions. Most of them were but slight. He was directed to frequently put oil in his eye, and to move it very often and a good deal. The largest portion of the adhesions was thus prevented from reuniting.

6. *Strabismus concomitans convergens oculi dextri.* Peter R., æt. 19 years. This patient was amblyopic in his right eye, so that he could read only No. XII. of Jæger's Scale. The deviation was three lines. Operation April 2d. A strabismus of one line still existed when I saw him some weeks afterwards, but he would not undergo a second opertion so as to get this remaining slight deformity cured, saying that he felt perfectly satisfied.

7. *Strabismus concomitans convergens oc. dext.* Catharine S., æt. 22 years. Deviation four lines. Right eye could hardly see to read No. XVIII. Operation on right eye, April 5th; on left, April 15th. In May there was a very slight convergence, (half a line,) which, however, was also subsiding.

8. *Leucoma central. corn. sinist. Leucoma central. Synechia anterior, oc. dext. Cataracta capsular.* Aaron St., æt. one and one-half years. This child was totally unable to distinguish objects, as the obscurity of

the cornea was central on both sides. On the left eye, the iris was grown together with the cornea; and even a very small part of the pupil was visible only when the child looked very much inward, so that the opacity did not interfere. The whole of this condition was the result of blennorrhœa neonator. On the 10th of April I performed iridectomy on the left eye, with perfect success. The child became able to move around, avoiding chairs, etc., standing in his way. A fortnight afterwards I performed iridectomy on the right eye, and found a capsular cataract when the iris had been removed. On the 8th of May I made a small opening in the capsule, puncturing per corneam. Atropine was instilled several times daily, and when I saw the child last, some weeks ago, the cataract was perfectly resorbed. A small flap of the opaque capsule was obstructing a small part of the newly-formed pupil. I did not think it necessary to remove it, for the little patient was able to see my watch and pieces of money, when the left eye was closed.

During all the operations performed, the child was under chloroform.

9. *Strabismus concomitans convergens. Amblyopia oc. sin.* Margaret W., æt. 27 years, had a deviation of more than 3½ lines on the left eye. She could only read large print with the eye in question, (Nos. XIV. and XV. of Jæger's Scales.) I performed a tenotomy on the left eye on the 10th of April, and one on the right eye six days later. I found after the second operation, when the patient woke up from the chloroform, that the axis of her right eye was diverging, and to diminish the too strong effect of an extensive loosening of cellular tissue and prevent too strong a retraction of the right internus muscle, I drew a ligature through the conjunctiva on the two sides of the wound, according to Von Graefe's advice, and with this pulled the whole conjunctiva, as far as it lay in the inner angle, forward, and consequently, acting also on the rectus muscle and its insertion. The following day I removed the ligature, and the eyes showed the normal degree of convergence.

10. *Wound of the Cornea. Iritis. Chorioiditis. Photophobia.* George G., æt. 18 years, a patient of Dr. Ayres, had been wounded with a pair of scissors near the centre of the cornea, which was healed, and formed a linear obscurity of the cornea 3 lines in length. When I saw the patient, neither end of this obscurity reached the margin of the cornea. There was much photophobia. Atropine had been used, and prolapsus of the iris had not taken place. The lens had not been injured, as I found after having placed him under chloroform to examine him thoroughly. The inner margin of the iris had par-

tially grown together with the wound, and the pupil was, therefore, irregular; the conjunctival and subconjunctival vessels (particularly the latter) were much injected. The fibres of the iris were hardly distinguishable, on account of an iritis of a serous character. This iritis seemed so intense, atropine had so very little effect, antiphlogistic treatment having already been administered, that I thought iridectomy strongly indicated. I proposed it to Dr. Ayres, and with his approval, I cut almost the third part of the iris out, forming a large coloboma upward and outward. I put a compressive bandage on the eye. The boy improved rapidly, and read small print a fortnight after the operation.

11. *Strabismus convergens alternans.* (2 lines.) *Nystagmus.* Ann McG., æt. 38 years, has a slight degree of amblyopia on both eyes. They are equally weak, and she reads no smaller print than No. V. of Jæger's Scales. She could give no account for this weakness, nor for the nystagmus, and believed the condition of the eyes had been existing since her early youth. On examination of the interior of the eye with the ophthalmoscope, I found nothing unusual. The patient, as almost every patient with nystagmus, was light-haired and blue-eyed. I made the tenotomy of the right internus on the 19th of April. The deviation had entirely disappeared when I saw the patient, two months later, and the nystagmus seemed to be decidedly improved. The trembling movements of the eye were very slow, and were sometimes not noticeable. Tenotomy of the internus muscle in nystagmus, performed on the stronger eye of the affected, has been recommended by Prof. Böhm, in Berlin, and executed several times by Ruete.* The latter noticed improvement in some cases.

Böhm does not consider nystagmus a nervous disorder, but atony and loss of power of the internus muscle on the stronger eye. I must have cut, according to this theory, by chance, the internus of the stronger eye, whenever I did not find any difference on examination. The muscle acts, as Böhm believes, only as an elastic ligament, and the sound externus muscle of the other eye makes only the corresponding movements by consensus.

Böhm's theory is rejected by Dr. Nacony,† but the latter's criticism, and all other literature, as far as my knowledge goes, gives me no theoretical reasons for the diminishing of nystagmus in this case.

12. *Strabismus concomitans converg. oc. sin.* (2½ lines.) *Amblyopia*

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* Ueber Nystagmus, v. Dr. Nacony, v. Graefe's Archiv., 5, I.

† Loc. cit.

(No. VIII.) *oc. sin.* Ida R., æt. 6 years, presented the above conditions of her eyes. On the 20th of April I made a large tenotomy of the left internus with perfect cosmetic effect.

13. *Strabismus concomitans convergens oc. dextr. Amblyop.* (No. XIV.) *oc. dextr.* The patient, Rosalia B., æt. 17 years, presented a strabismus of more than 5 lines, and two operations performed on both the sides, on the 13th and 18th of May, did not prove sufficient to cure the deformity. On the 26th I operated for the third time, and had a perfect success.

14. *Staphyloma partiale oc. sin. Atrophia bulbi dextr.* The patient, Edwin D., æt. 31 years, had considerable sight left on the staphylomatous eye. A part of the cornea, upward and outward, seemed to be transparent yet, and although the iris was heavily disorganized, I tried to make an iridectomy. My efforts were perfectly in vain, however; I could not get hold of the iris, which was completely changed into thick, tough membrane.

15. *Strabismus concomitans convergens oc. sin.* (4 lines.) *Amblyopia oculi sin.* Katy H., æt. 20 years; two operations, performed on both eyes on the 14th and 15th of May, effected a perfect cure.

16. *Strabismus alternans.* (2 lines.) Mary M, æt. 18 years, was affected with alternating squint. The sight of both eyes was good, and equally strong. One tenotomy of rectus internus dexter had a perfect result.

17. *Strabismus divergens oc. dextr.* (2 lines.) Joseph H., æt. 24 years. A tenotomy of the right rectus externus made the deformity perfectly disappear. The patient came to me the following day. He had tried to look at stereoscopic views to test the effect of the operation. He found that he was able to see stereoscopically, which he had been incapable to do before, on account of his strabismus. The common see-act,* *i. e.*, the seeing with both eyes together, had, therefore, been immediately established by the operation.

18. *Tumor erectilis palpebræ superioris dextræ.* Jenny B., a child of 8 months, was brought to me for a tumor in the superior lid. Though it was not larger than a good-sized pea, it prevented the raising of the lid entirely, except on a small part of the exterior angle, and even there but very little could be raised; it occupied the interior canthus; the skin over it was slightly reddened; no fluctuation.

The whole appearance made an erectile tumor more than probable. On the 24th of May I put a silk thread subcutaneously around the tumor, and tied its base as well as possible. I had turned the lid before the operation, and satisfied myself that the tumor did not go through the tarsus of the lid, and even had a little mobility on the exterior surface of the cartilage. In consequence of the subcutaneous ligature, the neoplasm grew harder, the redness of the skin disappeared almost entirely, and the outside part of the lid could even be lifted a little more.

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* "Gemeinschaftlicher Sehakt."

On the 1st of June I extirpated the tumor. I put the plate of Desmarres' forceps for the extirpation of chalazion under the superior lid; then I fastened the ring as strongly as possible in the usual way. By a crucial incision, I laid the tumor bare, and separated then the four little flaps from it. I shelled the tumor out, of course keeping as much as possible away from the tarsus.

The four flaps I united by two or three sutures.

The wound healed by first intention, and a short time afterwards, when the sutures were taken out, the patient lifted the lid almost as well as the other.

The tumors consisted of small veins and arteries, strong connections of cellular tissue, and coagulated masses of blood.

19. *Strabismus convergens concom. oc. sin.* (4½ lines.) *Amblyopia oc. sin.* Thomas St., æt. 15 years. In this case I performed the operation on both sides at the same time, (May 29th,) in order to find out whether in higher degrees of deviation the operation *à deux temps* might not be dispensed with. In private practice, it is undoubtedly very disagreeable to operate more than once, and the patients object to it sometimes. I therefore wanted to satisfy myself whether two tenotomies performed at once could be substituted sometimes for the operation *à deux temps.* I loosened the cellular tissue more carefully than I am accustomed to do, and took my smallest hook for catching the muscle. The result was perfect. The patient's eyes were parallel after the operation, and after the tendons that had been cut off had grown together again with the sclerotic, the eyes presented that degree of convergence which ought to exist always a few days after the operation, and disappears in some months entirely.*

20. *Dacryocystitis acuta.* Mrs. Caroline F., æt. 40 years, whom I had had under my care some time previous for a chronic blennorrhœa of the lachrymal sac, which I had treated with Bowman's sounds for a short time—till she lost patience and did not allow me to introduce

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* The reader remembers the three periods of tenotomy of the eye muscles, fixed by Graefe.

the sounds on account of "nervousness"—came with a large tumor on the inner angle of the right eye. The skin in this region was intensely red, and the patient suffered much from pain. I proposed at once to open the sac, and made a free incision. A mass of pus was discharged. I ordered cold injections and water compresses for the two following days, and then a light collyrium of zinc, for syringing. A short time afterwards almost the whole trouble had disappeared. The diseased membranes discharged a little mucus, but not so much as previously; the wound in the skin was healed. I could not induce the patient to get the subsiding blennorrhœa cured with the sound.

(To be continued.)

Report on the Clinic for Diseases of Children, held in the New York Medical College, Session 1860-61. By A. Jacobi, M.D., Professor of Infantile Pathology and Therapeutics.

(Continued from September No., p. 160.)

II. *Belladonna.* The root and alcoholic extract of this powerful narcotic have been administered by me in many hundreds of cases of infantile diseases. Those in which they have proved eminently successful are whooping-cough, and incontinence of both urine and fæces. A few remarks will suffice to lay my experience before the profession.

The most urgent objections that have been made to the use of belladonna in the diseases of early age were illustrations of its powerful effect. Therefore, also, the administration of the herb was frequently recommended in preference to both the root and the alcoholic extract. Such a recommendation, however, always originated in the so-called expectant method, in the principle of meddling as little as possible with the either wholesome or destructive proceedings of nature, in the uncertainty of doing good, and the fear of doing harm. But in regard to such diseases as really and positively require the intervention of art, I know of no principle that proves more injurious than this; and, instead of preferring the herb for its milder, and also more uncertain effect, I have discarded it altogether in my practice. The therapeutical effect of the root and extract I have found to be the same; the remarks I have to make are therefore applicable to either of them.

Belladonna is the most powerful remedy in whooping-cough. I scarcely remember a single case in which its administration, for years past, proved unsuccessful in shortening the duration of the process.

The result obtained by me has generally been this: that a well-developed case of whooping-cough, after the diagnosis was made certain beyond a doubt, would last for only three or five weeks longer, instead of running through its full course of months and quarters of a year. The effect is generally not a sudden one. Many cases in which belladonna is given from the first commencement will become worse for a short while, then remain at their height for some days or a week, and gradually improve in both the character and frequency of the attacks. In others the effect is perceptible from the first days after their first administration; the cases soon assuming a more favorable aspect. Such has been my uniform experience during the last five years, in each of which the children of this city have been suffering from a more or less severe epidemic.

My readers, many of whom doubtless have been in the habit of prescribing belladonna in whooping-cough with more or less marked success, need hardly be assured that I claim no priority. Belladonna has been recommended in this disease for many decennia, and has just as long been objected to, as either useless or dangerous. I have touched the subject because of my conviction that both the former objection and the latter fear are groundless.

Belladonna is well known readily to produce symptoms of poisoning. An amount of two and a half or three grains taken by an adult in the course of a day, of either root or extract, has the effect of dilating the pupils, causing a feeling of dryness in the throat, scintillation and giddiness, and even erythema of the skin. This latter effect is, however, not frequently seen in adults, while the effects on the pupil and brain are very common. It was therefore believed that, as nervous disorders are as common as they are dangerous in infantile age, these effects ought to counter-indicate its use; it was stated that it would cause congestion, sopor, acute hydrocephalus, and idiocy; and the practical consequence simply was, that the dose of the remedy, when given at all in a case where it appeared to be indicated, was entirely too small. Thus, doses of a sixtieth, a forty-eighth, a thirtieth of a grain of extract of belladonna, repeated three or four times a day, were deemed sufficient and proper. These doses could not but prove unsatisfactory, and thus it happened that the remedy was misappreciated and given up. The doses, however, administered by me proved successful, because they were really sufficient.

Infants of six or eight months of age affected with whooping-cough require a sixth of a grain of either the root or the alcoholic extract three times a day; children of three or four years tolerate three doses, each of half a grain. These doses appear to be very large in proportion to those tolerated by adults, but it is a fact which can easily be verified, that the effect of belladonna on the pupil and brain will hardly ever be perceptible in children from these or smaller doses. The sequence of belladonna symptoms in children differs, moreover, altogether from that in adults; the erythematous and flushed appearance of the face and neck, sometimes even of the whole surface, is the first symptom in infantile age; whereas it is seldom observed in adults, or in cases of thorough poisoning only. Some of the old authors have advised the administration of belladonna to such an extent as to produce the first symptoms of poisoning; others, however, have insisted on this practice being dangerous and wholly objectionable. I, for my part, soon found that those children suffering from whooping-cough who exhibited general erythema from an apparent overdose recovered soon, while others, in whom no such symptom was observed, remained sick for a long time; and continued experience has proved that the occurrence of this symptom is absolutely necessary for the full remedial effect. To obtain a cure in whooping-cough, the remedy must be given in a dose sufficient to produce erythema, or at least a flushed condition of the face, and, as it were, feverish appearance after every dose of belladonna. Thus the dose is to be gradually increased until this result is obtained. It is a remarkable fact, that very young infants may take unproportionately large doses; at all events, I do not remember a single case in which less than half a grain was taken in the course of a day. The prescriptions I have been in the habit of ordering are very simple ones. I either give the medicament as a powder, or have the extract dissolved in water and sweetened according to circumstances.

℞.—Rad. (or extr.) belladon., . . gr. ii.–vj.
Sacch. alb., (or s. lactis.,) . . ʒss.
M. f. pulv., div. in p. æq., No. xii.
D. S.: Three powders a day.

℞.—Extr. bellad., alcoh., ... gr. vj.
Aq., ... ℥ ss.

M. D. S.: Twenty drops three times a day, (for a child of three years.)

The administration of belladonna alone is indicated in such cases of whooping-cough as are not complicated with catarrhal or inflammatory affections of the respiratory organs. The latter take the lead in complicated cases as well in treatment as in the nature and gravity of the symptoms. This is so certain, that whenever a pneumonia coincides with or follows whooping-cough, the peculiar sound of the cough of the latter will disappear, nor return before the inflammatory affection is removed. As this is moreover the most dangerous of the two, it requires attention before the other. As to bronchial and laryngeal catarrh, the former especially is a very common symptom in whooping-cough. Where it is but slight it may be considered as unimportant; where, however, it gives rise to fever or dyspnœa, it constitutes a further indication to interfere. A dose of rad. ipecacuanh., or of oxysulph. antim., may then be given combined with the belladonna.

℞.—Rad. (or extr.) belladon.,	. . .	gr. vj.
Oxysulphur. antimon.,	. . . .	gr. xij.
Sacch. alb.,	. . . . .	℈j.

M. f. pulv., div. in p. æq., No. xii.

D. S.: Three powders daily.

There are some old formulæ combining belladonna and opium. As we know at the present day, however, that in many regards belladonna and opium counteract each other, especially in their bearing on the action of the circulatory system, so that the two have been considered for some time past as direct antidotes of each other, the idea of combining these two narcotics must be given up as irrational.

Incontinence of urine is another of the troublesome affections which are in almost all cases easily removed by the administration of belladonna. From the almost regular effect it has, we must conclude that the majority of cases depend on increased irritability of the bladder, which is relieved by the administration of the narcotic. The affection is as frequent as it is troublesome. Dr. Addinell Hewson reports in the *American Journal of Medical Sciences*, October, 1858, "some facts in relation to the nocturnal incontinence of urine in children." He observed seventy-eight cases among the two hundred and ninety-two boys in the House of Refuge, in Philadelphia; the average ratio of the diseased being 1 : 3.75. The ratio was in the white boys, 1:7; in the black, 1:2.7. The average age was 12½ years; the youngest affected with the disease was 7; the oldest, 18 years old; the greatest number affected at any one age was 9; this was at the age of 14 years. Of 63 cases, there was uric acid deposited in 31 specimens, urate of ammonia in 8, urate of soda in 1, ammon. magnes. phosph. in 1, no deposit in 22. The prepuce and penis were discolored, and the former much elongated, as either from frequent pulling to relieve the itching of cystic irritation, or from masturbation; in 33 there was every reason to suspect this; in 12 there was no suspicion. Amount of drinking and diet had a great influence; a sudden fall of the thermometer or barometer always increased the number of patients. Bromide of potassium in two and a half and three grain doses, three times daily, cured 9 after a week's administration, and benefited 4 after another week. The remaining 50 were not benefited at all. To the 54 chloride of iron was given for six weeks without any effect. Tincture of cantharides was then given for two weeks, brought on dysuria in the majority of the patients, but cured none. Then, at last, belladonna was resorted to. During two nights, at the end of the first week, there was not a single case.

I have given a pretty full account of this report, because of its accuracy, and not because of its being the only one. More than twenty years ago, belladonna, and other narcotics also, have been recommended for the same purpose, and the medical journals of the last few years contain a large number of cases of incontinence of urine, cured in the same manner. For four years past, during which time I have given belladonna in every instance, I have not seen a single case in which the medicament proved unsuccessful. A complete cure was generally obtained in half a week or a week, by doses of the same strength, or a little less than those given in whooping-cough. Perhaps, however, the administration can be greatly simplified. One of the former students of the New York Medical College, Dr. Guild, of Rupert, Vermont, cured a girl of seventeen years, who wetted her bed every night, and had been attended for her disease since her early years, in a few days, by a single daily dose of belladonna, administered at bedtime.

The admirable effect belladonna has in incontinence of urine induced me to give it in cases of incontinence of fæces, an affection not so frequent as the former, but certainly even more troublesome. The first case was that of a boy of three years, who, although accustomed to cleanliness and self-control, could not be induced to keep his fæces. Three daily doses of half a grain of rad. belladon. removed the affection in from five to six days. Several other cases were relieved in the same manner, and the experience of other writers shows the same results. Dr. Richard administered belladonna for the same purpose, and moreover, introduced into the rectum a suppository coated with extract of belladonna. In one case, a satisfactory result was obtained in two days. And Dr. Bercioux, after having tried, and generally in vain, tonics, iron, cold, cantharides, and secale cornutum, had complete success with extr. bellad., gr. $\frac{1}{7}$ (one-seventh) two, three, or four times a day, even in inveterate cases.

On the indications for the use of belladonna in other affections I have but little to say. As others, I have frequently used belladonna in photophobia attending the conjunctivitis of scrofulous children, and its alkaloid in more or less severe cases of keratitis. My general practice has been, in the former, to rub into the eyebrows, forehead and temples, many times a day, part of the following salve:

℞.—Ungt. hydrarg. ciner., . . . ʒij–iij.
Ext. belladon., ... ʒj. M. ft. ungt.

In cases of exudative keratitis, a solution of atropia in distilled water, applied to the eye by means of a soft brush, has proved exceedingly satisfactory:

℞.—Atropiæ, ... gr. j.
Solve in aq. destillat., . . . ʒij–℥ss. M. D.

Finally, of the prophylactic effect of belladonna in scarlatina, on which so much has been written and said, I have but little personal experience. This little, and a careful study of the results and experience of others, induces me to give it no further trial.

III. *Hyoscyamus.*—After the expositions given on narcotics in general, and on opium and belladonna in particular, a few words will suffice to characterize the value of hyoscyamus in the diseases of children. It has the general effect of narcotics, with less influence on the cerebral functions than any of the above. While it undoubtedly acts on the nervous system, its centres appear less affected by it than its peripheric ramifications. From this fact, it would result that larger doses are not only tolerated, but required.

In regard to its action on the nerves, we find that it influences more the sensory nerves than the trophic ones. It does not suppress secretion like opium, nor has it so much of the contracting power over the lumen of the blood-vessels as belladonna. While it is easily tolerated by the stomach and intestines, it little interferes, if at all, with their functions. Thus, it may be given in severe colic pains, added to such remedies as are administered for causal indications. It acts well, further, when added to medicines intended to relieve catarrhal affections of the respiratory organs. It relieves pain without producing sopor, and irritation of the mucous membrane without interfering with its secretion. It is, therefore, a valuable additional remedy in laryngeal and bronchial catarrh, and intestinal catarrh with great uneasiness or pain; in catarrh of the bladder, with much straining and pressing. It is, therefore, given merely for its symptomatical action; but we are frequently under the necessity of attending to the symptoms of an affection for their own sake, as well as we try to remove the cause of the disease. Finally, hyoscyamus acts well by counteracting the irritating effect of other remedies, which may be found indispensable, but the irritating effect of which is nevertheless much feared. Thus, I have, since I did not deem it proper to add enough opium, especially in very young children, to counteract the local irritation of veratria, always added, in infantile practice, extract of hyoscyamus to the tincture of veratrum.

℞.—Tinct. verat. virid., . . .	gtt. xx.
Extr. hyosc., ...	gr. vj.
Aq., ...	ʒiij.

M. D. S.: Ten drops every two (or three) hours, to children of a year, according to the indications of the tinct. veratri.

I add extract of hyoscyamus very frequently to expectorants, the action of which is not interfered with, while the cough of bronchial affections is greatly relieved; therefore, I often combine it with powders, or mixtures containing ipecac., oxysulphur. antimon., squill., liq. ammon. succin., or muriat. ammon.

℞.—Oxysulphur. antimon., . .	gr. xij.
Extr. hyoscyam., ...	gr. vj.
Sacch. lact., ...	ʒss.

M. ft. pulv. Div. in p. æq., No. xvj.

D. S.: A powder every two (or three) hours, in bronchial catarrh, to children of one or two years.

℞.—Muriat. ammon. pur.,	
Ext. glycyrrh. pur., āā., . .	ʒij.
Ext. hyoscyam., ...	gr. xij.
Aq., ...	℥iij.

M. D. S.: A tea-spoonful every two hours, in bronchial catarrh, to children of two or three years.

℞.—Bicarbon. sodæ, ...	ʒij.
Extr. hyoscyam., ...	gr. viij.
Aq., ...	℥ij.
Syr. gummos., ...	℥j.

M. D. S.: A tea-spoonful every two hours, in catarrh of the bladder, to children of one or two years.

It is not necessary, however, to multiply prescriptions, when the indications for both its independent and additional administration are clearly given. Independent of any addition, I have often ordered it in the irritation and colic following gastro-intestinal catarrh, (in similar cases, therefore, as those requiring the use of codeïa,) and in laryngeal catarrh, in place of opium. While in the former a frequent and small dose will prove sufficient, it is better in the latter to give a larger dose, of a grain, or two or four grains, at once, in the evening.

The dose of extract of hyoscyamus, as is stated above, and as results also from the prescriptions given, is not so small as that of other narcotics. Newly-born infants have taken, with good effect, from a grain to a grain and a half a day, and children of two or four years tolerate well doses of from two and a half to four or five grains.

Treatment of Wounds produced by Venomous Serpents. By Dr. DIEDER. (Translated from the *Journal de Chimie Médicale*, by L. H. S.)

Being convinced of the correctness of the views of Robin and Verdeil (*Chimie Anatomique*) as to the analogy existing between ferments and the causes of certain virulent diseases, and knowing that fermentations are absolutely checked by the presence of acids, albumen and alcohol, I have endeavored to verify the value of this opinion by practice. An occasion soon presented itself, during a sojourn in Brazil, of experimenting, and, for a period of sixteen months, I have seen experiment give entire sanction to my theoretical notions.

It frequently happens that men are victims to the bites of venomous reptiles, which abound in the torrid zone. The ordinary symptoms are, acute pain in the bitten part, which swells, becoming shining, red, warm, violet, then livid, cold, and somewhat insensible; the pain and the inflammation are extended along the great nervous trunks and lymphatic vessels; soon are manifested lypothymia, nausea, gastralgia, dyspnœa, cardialgia, bilious vomitings, cold and colliquative sweats, tympanitis, acute gripings, acute lumbar pains, relaxation of the sphincter ani, a species of paralysis of the neck of the bladder, and, consequently, involuntary discharges of fæces and urine. Then the pulse is small, hard, intermittent; the skin (even that of the negro) becomes pale and yellow; blood, black, liquid and sanious, runs from the wound, which assumes a gangrenous appearance. If a series of such grave symptoms, analogous in more than one respect to those of diffused phlegmon and purulent infection, is not soon relieved by the aid of art, they increase still more, and those portions of the body affected by œdema are covered with phlyctenæ, which indicate the coming of sphacelus; hæmorrhages from the eyes, ears and anus, and death takes place in the midst of ataxic or adynamic symptoms.

In many cases, I have been able, by the treatment which I shall indicate, to check all the symptoms, and to restore health in a very short time, to the blacks, who, wounded by serpents either in hand or foot, presented cases of great inflammation, extending even to the ganglia of the articulations nearest the trunk.

The treatment is that by *alcoholization*, and consists in administering a moderately large quantity of brandy, rum, or other alcoholic liquor, varying with the age and strength of the individual; generally, this first dose should be from 50 to 100 grammes. Immediately after the accident, an aromatic infusion is to be prepared, which should be given to the patient to drink, as warm as possible, immediately after drinking the alcoholic liquor.

The patient should be kept in this state of alcoholization until the local and general symptoms have improved, and the partial disappearance of the swelling and pain can be readily perceived. This period may last twelve or twenty-four hours, or longer, according as the treatment has been commenced sooner or later after the bite. During this period, there should be administered hourly about 60 grammes of the warm aromatic infusion, with from 10 to 15 grammes of the alcoholic liquor. As soon as the symptoms appear to retrograde, it is sufficient to keep up the cutaneous transpiration by means of warm tisans, and to administer a saline cathartic. In cases where the amendment is followed by a relapse, alcoholization must be again had resort to.

This method I have never seen fail when it was employed within two hours, or a little longer, after the reception of the wound.

These observations have been made in the interior of Brazil, in the midst of the coffee plantations on the banks of the Parahyba. The treatment has been employed not only on man, but also on animals; a watch-dog of large size, which had been bitten in the forehead by a trigonocephalus, the two fangs being left in the wound, was subjected, after the withdrawal of the fangs, to an alcoholization for twelve hours, with success; in this case, however, the swelling of the head had reached enormous proportions, so that it was impossible to recognize the eyes. The same fortunate result was obtained in the case of a mule bitten in the nostrils.

The local treatment consists in distending the wound so as to be sure that the reptile's fang is not present, and to cause blood to flow so as to wash out the poison that may have been deposited; a cupping-glass may be used for this purpose. Finally, after having washed it well, compresses of alcoholized water are employed, which should envelop the whole limb, if the poison has made any progress. It is, of course, understood that the subject is kept warmly covered in bed.

If one compares the series of symptoms produced by the bites of venomous serpents with those of anatomical wounds, the analogy is more manifest. The same treatment has succeeded in the latter cases. Two anatomical wounds of the hand, which had already produced swelling of the glands of the axilla, with tumefaction of the elbow-joint, were entirely managed by this method; the same evening there was an amelioration of symptoms, and a cure resulted. The happy influence of alcoholization in these cases is explained by the supposition that the alcoholized system being protected from the action of the poison-ferment, can then by its own unaided efforts throw it off by the natural emunctories, without being exposed to its deadly effects. *Alcohol is to ferments what chloroform is to pain.* It is a subject of public notoriety in Brazil, that a man in a complete state of intoxication may be bitten by a venomous serpent with impunity.

Such are the facts to which I have desired to call attention. It is possible that this succinct *exposé*, by opening up a new mode of experimentation, may lead to new experiments for the cure of putrid infections, carbuncle, and probably hydrophobia.

[In relation to the subject of the foregoing valuable paper, we refer our readers, also, to our *Summary* of last month, p. 225.—L. E.]

MONTHLY SUMMARY OF DOMESTIC MEDICAL LITERATURE.

By Dr. T. Gaillard Thomas.

1. *Reposition of an Inverted Uterus of Fifteen Years' Standing.* By Henry Nichell, M.D. (Buffalo Medical and Surgical Journal and Reporter, Sept., 1861.)
2. *Case of Excision of Inverted Uterus; Death Five Years afterwards, from Phthisis; Autopsy.* By William Henry Thayer, M.D. (Berkshire Medical Journal, September, 1861.)
3. "*Desormeaux's Endoscope, a Lantern of the Bladder.*" By Dr. S. Pollak. (St. Louis Medical and Surgical Journal; Berkshire Medical Journal, September, 1861.) ["The Gastroscope."]
4. *Styptics upon the Battle-Field.* By John M. Maisch, Pharmaceutist. (Philadelphia Medical and Surgical Reporter, Sept. 7, 1861.)
5. *Case of Empyema; Thoracentesis; Death from Hæmorrhage.* By Francis Minot, M.D. (Boston Medical and Surgical Journal, Sept. 12, 1861.)
6. *Remarkable Case of Recovery from Drowning by the aid of Faradaism and Electro-Puncture.* By Alfred C. Garratt, M.D. (Ibid., September 5, 1861.)

7. *Abortion in Third Month, with Adherent Placenta.* By Wm. W. Vasse, M.D. (St. Louis Medical and Surgical Journal, Sept., 1861.)
8. *Most Efficacious Treatment of Stomatitis Materna.* By J. N. Gibson, M.D. (Ibid., Sept., 1861.)
9. *Case of Rupture of the Abdominal Parietes.* By Edward Batwell, M.D. (Medical and Surgical Reporter, Sept. 14, 1861.)
10. *Obstetric Statistics for Twenty Months.* By B. Woodward, M.D. (Ibid., Sept. 14, 1861.)

1. Dr. Henry Nichell reports reposition of an inverted uterus of 15 years' standing, by application of aq. plumbi to the tumor for three days, and then the employment of taxis.

2. Dr. Thayer reports a case of inversion of the uterus ensuing after delivery. Hæmorrhage occurred and continued for three years, when her attending physician [name not mentioned] removed the inverted organ. For a year she seemed benefited, but after that period head symptoms appeared at each monthly epoch, and five years after the operation she died. Autopsy showed very little of uterus left; all the fundus, part of cervix, and part of Fallopian tubes having been removed.

3. Dr. Pollak, writing from Paris, describes an instrument used by Desormeaux, of *Hôpital Cochin*, for illuminating the bladder. It is a catheter, with illuminating apparatus at the end, which has a window. "He *pretends* that he never fails to *see* a calculus, without feeling it!!" [Apropos to ridiculous new "*scopes*," we do not fail to transplant here also a London invention by a celebrated "stomach man," to wit, an instrument for the examination of the interior of the great digestive organ in obstinate and obscure diseases, to be ycleped the "gastroscope." "It mainly consists of a tube, which passes down into the stomach through the œsophagus," says a London correspondent of the *British-American Medical Journal*, "and is so delicately arranged, that by a series of reflecting surfaces the state of particular parts of the mucous membrane is shown in a mirror at the back of the mouth."]

4. Mr. Maisch lays great stress upon the employment of Monsell's salt (persulphate of iron) as a styptic, before the wounded man is removed from the battle-field. Among other styptics which might be employed, he mentions the Penghas-whar-jambi, thus:

"*Penghas-whar-jambi.*—The interesting substance with that barbarous name, derived from a Cibotiune, a fern of Java, consists of thread-like, shriveled cells, through the walls of which the blood is absorbed, causing simultaneously an expansion of the whole cell. It is possible that simply by this diffusion, the fibrin of the blood may pass into the insoluble state, and that by this action in connection with the influence of oxygen over an extended surface, the exuding blood is sufficiently coagulated to arrest bleeding, though much of the effect is undoubtedly due to the enlargement of the cells, and the consequent pressure upon the ruptured vessel, inasmuch as the simple application of the loose substance has comparatively little effect, and as it has the desired result in the shortest time, if it is rolled together and applied with a gentle pressure. The explanation, by many physicians, of the *modus operandi* of these paleæcibotii is that of a simple filtration, whereby the blood is deprived of its fluid portion, leaving the corpuscles behind in a mass. It is most likely that all these causes combined lead to the great activity of this last-mentioned hemostatic, and that filtration exercises its influence likewise in the other cases. It is certain, however, that all the substances named, together with some others popularly employed, like the web of the common spider, act mechanically, and are entirely or nearly destitute of soluble constituents, or of bodies which exert a chemical influence on blood."

5. Dr. Minot reports a case of empyema, operated on by thoracentesis, in which fatal hæmorrhage occurred 26 days after.

"At the autopsy two pints of coagulated blood were found in the left pleural cavity, whose walls were everywhere covered with a thick, rough, firm, false membrane. The costal pleura and parietes of the thorax on the same side were in several places deeply eroded, as if the pus had pointed there, before the puncture was made. The ribs were exposed and denuded at several points. The vessel from which the blood escaped could not be found. The left lung was much compressed against the spine, but still contained air. At its apex was a small cavity, and lower down another, still smaller, in the neighborhood of which was a mass of yellowish-white tubercle. In various parts of the lung were gray granulations, isolated, or in groups. Many of the same granulations were found in the upper lobe of the right lung, and, at one point, softening. The right pleura was healthy. The heart was quite small, and occupied the median line.

"The hæmorrhage in this case probably came from one of the intercostal arteries, which must have been opened in the process of necrosis of one of the ribs. From the small quantity that escaped from the chest, it seems likely that the ulcerated vessel was not situated near the puncture. The condition of the lungs and ribs showed that the operation could not have saved the patient, even had not hæmorrhage occurred; but the great relief it afforded would fully justify its being performed in another similar case, as a means of both relieving suffering and of prolonging life."

6. One stormy morning, in the month of March, a powerful seaman missed his footing and fell into Boston harbor. The body was "cold, rigid, and apparently lifeless." Dr. Garratt was informed by the bystanders that twenty or thirty minutes had passed before the body rose to the surface, after its immersion. The body being removed to a neighboring house, a stomach-pump was used, and an incredible amount of water removed from the stomach. Then a strong electrical current was passed through the chest, the positive electrode being applied to the nucha, and the negative passed over the chest anteriorly, the current being occasionally changed in course. This was kept up for an hour.

"But after this, having thus worked definitely and perseveringly with all our operations for more than an hour, the machine also running all the while at the highest possible speed and strength, and having thus thoroughly embraced the nerve-trunks, ganglia, nerve ramifications and muscle fibres of the thorax in the circuit of this powerful electric current, and finding that no signs of life appeared, we redoubled the energy of all our appliances. While other things were being well done, I now directed the current through the chest, placing the positive pole to the nipple of the right breast, and the negative to the nipple of the left, the body at this moment lying on the right side, inclining well over towards the face. Instantly there was perceived a quick, short inspiration, much like a sigh; but unfortunately, this could not be reproduced, though sought for with most strenuous efforts by all hands, for some time longer. I now loosened the binding screw of one of the conductors from the machine, and thus holding its metallic tip, the positive electrode being placed at the *nuche*, while the negative was adjusted with a small sponge-tipped ivory electrode, the sponge being moistened and placed in the left nasal fossa, I made and broke contact in this manner with my hand, every ten or fifteen seconds, retaining the action of the current longer than the cessation. This was a renewed success. Its rallying power was wonderful. Repeated sighing-like inspirations were thus pretty regularly but seldom produced, as was evident to me, and at the same time the skin became softer and warmer. It is noteworthy, that these sighs or inspirations were so slight, and amid such brisk work, and were also so unexpected, that they were discredited by some of the more doubting eye-witnesses. These lively processes were pursued, however, for some half hour longer; during which time the electrodes were placed respectively on the breasts, and sometimes at the nuche and nose, and then opposite the diaphragm, from the lower cervical vertebræ to the pit of the stomach, &c., but the phenomenon of life appeared to flag a little instead of increasing.

"At this juncture I resolved to resort to electro-puncture; not primary galvanic, but suitable, or at least admissible, for such a case. Long gold electro-puncture needles, well insulated except at their points, four in number, and four inches in length each, were carefully inserted in quick succession, some two or three inches apart, along the front sides of the chest, two in the lower part of each pectoral, plunging them inward and downward between the fifth and sixth ribs, their whole length, thus transfixing the pectoral, intercostal and diaphragm muscles, embracing the external nerves, also the solar plexus and the phrenic nerve branches. The introduction of the needles made no visible impression, but the instant the electrodes were now removed from the skin and brought only into contact with the ball heads of the needles, (or the coupling chain of each two,) so that the electric current actually traversed the diaphragm, from the points of one pair of needles on one side to those in the other, there was produced at each contact, *i. e.*, after a delay of some five seconds or so, most manifest respirations, to the infinite delight of all present, for this was the *argumentum ad hominem.*"

In half an hour the heart was beating, and the patient subsequently recovered.

7. Dr. Vasse was called in great haste to Mrs. M., June 21st, who was in third month of pregnancy. She stated that she had had symptoms as if of approaching menstruation, and upon feeling something pass from the uterus into the vagina, had passed her finger into that canal and drawn forth a fœtus without membranes. She removed it, breaking the cord, and very soon slight sanguinolent discharge, which existed, entirely ceased.

On the 30th was taken with severe bearing-down pains, (having in the interval between this time and the 21st been well,) which were quieted by morphine. On the 3d July violent hæmorrhage occurred, which nearly destroyed life, and this continued until the 6th, when the placenta was manually removed. The only peculiarity about the case is the fact of no hæmorrhage existing at the time of expulsion of the fœtus, and its occurring in so violent a form after the patient's remaining well for nine days, at which time the attachment of the placenta was separated, and the mouth of the uterine vessels left open.

8. Dr. Gibson advises for stomatitis materna as "nearly specific

as quinine for intermittent fever," chlorate of potash, half-drachm doses daily, and application of solution of tannate of zinc to the part affected. [The use of chlorate of potash in this and all kinds of stomatitis is indeed "nearly a specific," and has long been so regarded and employed in this city.]

9. Dr. Batwell reports a very curious case. The patient, Mrs. D., æt. 67 years, of intemperate habits, had suffered for three weeks from bronchitis, which was yielding to treatment, when the Dr., being suddenly called to her, found that in a violent attack of coughing "a complete rupture had occurred, not alone through the muscular fibre of the recti muscles and linea alba, *but through the integument itself*, permitting a large quantity of omentum and small intestines to escape from their natural cavity, which were, with considerable difficulty, returned, owing to the strong muscular contraction and to the expression of pain from the patient. However, being returned, they were retained by simple sutures and a firmly applied bandage, and the patient ordered 40 drops of tr. opii in some brandy and water, and to have it repeated every fourth hour if found necessary, to allay her cough.

"The rupture had occurred about an inch and a half below the umbilicus, was about four inches long externally, and about two inches in extent through the peritoneum. The recti muscles were severed through their entire breadth, and there was no appearance of ulceration or previous abrasion of surface, to account for the accident. On visiting her some hours afterwards, I found her very comfortable, having had some refreshing sleep, and having partaken of some light diet. The medicine and brandy were ordered to be continued, and on my visit next morning she expressed herself as having rested well, and feeling more easy and comfortable than she had for some time. On the fourth day after the accident the bandage was removed, and the wound had progressed towards healing in a satisfactory manner; one point of the suture had cut through, but union had taken place between the surfaces of the wound. For the first time she complained of tenderness over the peritoneal region, and I combined calomel with opium, which was administered very freely during the day and night; on my visit on the morning of the 8th, (being five days since the rupture had taken place,) I found that considerable nausea had supervened during the night, and just previous to my arrival, she had, in a violent fit of coughing and vomiting, again ruptured the newly formed adhesions, permitting the escape of the intestines as on the former occasion. This had occurred, doubtless, from the patient having loosened the bandage, thus taking away all support from the recently formed adhesion.

"With the kind assistance of Dr. D. Henderson, I was enabled to return the protrusion, which was now firmly agglutinated together by inflammatory action of the peritoneal surfaces. It was retained *in situ* by aquilled suture and bandage. Considerable serum escaped from the cavity during our manipulations, a symptom not observed on the former occasion. The same course of treatment was pursued as on the first accident, but not with very satisfactory results, as on next day she complained of considerable pain over the entire surface of the abdomen, with great tenderness and constant nausea. Calomel was again resorted to, and appeared to exercise a beneficial effect, but it soon also lost its power to allay the distressing symptoms, though it certainly restrained the tympanitis, which now had become very urgent. During this period of two weeks all the secretions were perfectly natural, and were carried on as if nothing had happened. The wound was examined daily, and evinced little tendency to reunite. The patient now began to lose her strength, and was kept continually under the effect of stimulants. The several organs of the body gradually became affected. The kidneys, liver, and finally the brain yielded, and on the 28th of June she died without a struggle, having lived twenty-five days from the receipt of the injury."

10. A successful case of prolapsus funis, treated by the postural method, is reported by Dr. B. Woodward, of Galesburg, Ill., [which makes the thirty-eighth successful case out of forty-eight cases in which it has been tried, as far as we know.]

MONTHLY SUMMARY OF FOREIGN MEDICAL LITERATURE.

By Dr. L. Elsberg.

95. *On Rare and Anomalous Affections of the Nervous System.* By Jonathan Hutchinson. (London Medical Times and Gazette, August 3, 1861.)
96. *The Treatment of Erysipelas.* By William Pirrie, Jr., M.D. (Edinburgh Medical Journal, July, 1861.)
97. *The Treatment of Scabies.* By T. McCall Anderson, M.D. (Medical Times and Gazette, August 10, 1861.)
98. *On the Use of Cold in Surgery.* By M. Esmarch, M.D. (Langenbeck's Archiv; Schmidt's Jahrbücher, No. 7, 1861.)
99. *The Modes of Termination of Extra-Uterine Pregnancy.* By Dr. Mattei. (Gazette des Hôpitaux; Times and Gazette, Aug. 17, 1861.)

100. *On Rigidity of the Os Uteri and its Treatment.* By M. Paul Dubois. (Gazette des Hôpitaux, No. 20, 1861.)

101. *Leucorrhœa and Ulceration of the Cervix Uteri in Pregnancy.* By M. Charrier. (Bulletin de Thérapeutique, Vol. LX., 1861, p. 59.)

95. "Diseases of the nervous system often manifest themselves in what we might almost call so curious a manner, that, in the present state of physiology, the record of them seems more like collecting curiosities than illustrating practice. We must, however, remember that affections—for instance, cases of circus-movement—which, being so rare, were necessarily little studied, and yet so extraordinary that they forcibly claimed attention, have, by the advance of physiology, been made out to depend on definite lesions of certain parts of the nervous system, so that, by experiment, we can produce in animals the phenomena of disease. The writer lately saw a patient, a man, aged 33, under the care of Dr. Kitching, of York, who, when placed in the middle of a room, would at once begin to turn from right to left, the heel of the left foot being the pivot, and remaining in the same position. He is insane. When led back to his couch, he knelt before it, burying his head in his hands. His mental defect rendered it very difficult to ascertain the facts of the case very clearly. He says he "is told to do it," which probably is the only language or idea into which his insane mind can translate the necessity under which he feels that he labors. This case will, we believe, be fully reported in this journal.

"We recorded, a few months ago, a case under the care of Dr. Brown Séquard, in which a man being apparently otherwise healthy, applied in order to obtain relief from a constant tendency of his lower jaw to fall, except when he was either talking or eating. Dr. Brown-Séquard mentioned the case of a patient who would now and then involuntarily clasp his hands over his chest.

"The following is a case the interpretation of which would, at one time, have presented great difficulties. A man was admitted under the care of Dr. Brown-Séquard, who had an accident twenty years before, by which he injured the cervical spine. He had had ever since considerable loss of motor power and hyperæsthesia on the left, and anæsthesia on the right side of the body, the face excepted. A short time ago a patient whose case is somewhat similar, but in whom the paralysis has followed injury by a knife in the cervical region, attended Dr. Brown-Séquard's practice. In this case the various symptoms due to lesions of one lateral half of the cord were most prominently exhibited. On Monday last we saw another case of extreme rarity, *i. e.*, recovery after apoplexy into the spinal cord. The man says that, many years ago, he fell down suddenly insensible, and when he recovered consciousness, about half an hour afterwards, he found that the whole of his body was completely paralyzed, both as to sensation and motion, except above a line drawn round the neck from about the level of the second cervical vertebra. He has gradually recovered, but there still remains sufficient defect of sensation and motor power to confirm his statement of his condition after the fit. We hope to be able to place the details of these interesting cases before our readers.

"A patient applied at the Royal London Ophthalmic Hospital lately for paralysis of the third nerve and frontal branch of the ophthalmic division of the fifth nerve. He said that he had frequently a tendency to laugh without cause; he could with difficulty restrain himself, and was in the habit of putting his hand over his mouth to do so. Dr. Paget, of Cambridge, has recorded a case in which, among many other anomalous symptoms, frequent bursts of unmeaning laughter was a complication of epilepsy. At a late visit to the Hospital for the Epileptic and Paralyzed, we saw a patient of Dr. Ramskill's, of whose case the following are brief particulars: a young man, aged 18, of good general health, had a spasmodic drawing in of the fingers and thumb of his left hand, especially when his attention was directed to it, his thumb being firmly contracted on his palm. There was no choreic movement of the rest of the arm. There was no paralysis, and the muscles of the forearm, both extensors and flexors, were very strongly developed, much more so than on the healthy side. It is probably a case analogous to what is called " writer's palsy," or properly, spasm.

" On December 1, 1860, we recorded a case from Dr. Brown-Séquard's practice. A man, aged 33, was unable to write, from spasmodic flexion of the thumb. In this case, the thumb only was at fault, but at one time the whole hand had been affected, just as is now the case in Dr. Ramskill's patient. In both the cases there is a history of former disease of the nervous system. Dr. Ramskill's patient, when very young, had paralysis of the left side of the body, following some kind of fit. He, however, recovered, with the exception of the spasmodic closure of the hand, and that the left leg was not quite so " good " as the right. He appeared, however, to walk well, and his general health was very good."

96. As the exact nature of the poison of erysipelas is unknown, we are not in possession of any remedy having the virtues of an antidote. Neither can any single plan of treatment yet devised be recommended

as equally applicable to all cases, inasmuch as the features of many greatly differ, owing perhaps to the particular diathesis of the subject, or to his state of general health, and the circumstances he was placed in at the time of seizure, or to the peculiar type of the prevailing epidemic. That the last-named circumstance requires to be carefully weighed in every instance will at once be readily granted; for one visit to the majority of the cases of erysipelas of the head and face as now met with, will at once convince us that they are altogether unsuited for the blood-letting and other powerful antiphlogistic remedies which seem to have been so beneficial according to the records of by-gone observers.

On the other hand, that the excessive stimulation so strongly advocated by some for every case of the disease in question, is not an indispensable remedial agency for successful treatment in most instances, may, I humbly think, be reasonably inferred from the multitudes of recoveries which have taken place under a more moderate use of stimulants.

The conviction that erysipelas generally tends to spontaneous recovery is by no means incompatible with holding the belief, that much may be done by suitable treatment to check the intensity of the disease, to alleviate or remove many of its most distressing symptoms, to maintain the vital powers, to moderate inflammatory action, and to assist the natural efforts at cure, and thus more surely conduct the disease to a favorable termination. Examples of the disease often occur, which from the first present a very unfavorable aspect, yet issue in recovery. Such recovery we may justly ascribe to the line of treatment pursued. It is therefore the duty of every one to place on record any plan of treatment which he thinks has been attended with success, and allow it to get a fair trial in the hands of others; to state fairly the effects which appeared to him to follow the employment of any particular remedy, in what respects it modified the intensity of the disease, and what symptoms it alleviated or controlled; without trying to deny that much is done for recovery in this disorder by the spontaneous operations of nature. It has always appeared to me, that in a careful study of this as well as other diseases, we discover certain landmarks or beacons, as it were, to guide us to the adoption of a scientific and rational method of treatment. We find, for example, that the disease cannot be cut short by any known agency, that it must run a definite course, that it early produces a most depressing effect on the system, that there are symptoms more particularly distressing than others to the sufferer, and that in due time Nature employs a machinery of her own for the removal of the noxious matter from the system.

The great indications of treatment, then, suggested by a consideration of these points, are, to uphold the powers of the system, to ameliorate or control the most distressing symptoms, to obviate the tendency to death, and to assist, if possible, the natural efforts at cure.

The first indication is to be fulfilled by removing as speedily as possible any existing internal sources of irritation, by correcting any hepatic or alvine disorder, by rigidly enforcing thorough ventilation, with due regard to the maintenance of an equable temperature and guarding against exposure to currents, and by giving some medicine or remedies capable of imparting tone to the system and of upholding the vital powers. A marked feature of the disease, as already mentioned, is early depression of the various parts of the organism—the energy of the nervous system becoming rapidly exhausted—the vigor of the muscular system being speedily impaired—the tone of the vascular system lowered—the capillaries relaxed, and serous effusions quickly ensuing. I was induced, by the high terms in which many have written in favor of the muriated tincture of iron, recommended by Mr. Hamilton Bell, for the treatment of erysipelas, to try what effect the perchloride of iron might have on the disease. Having given it a fair trial in five successive cases, I will simply state the effects which I observed to follow, in the hope that others may give it a trial, and thus an opportunity be obtained of comparing the effects produced in different cases, and the means be acquired of arriving at some definite understanding as to its value in the generality of cases. In all the cases in which I used it, a decidedly beneficial effect seemed to be produced. The febrile condition seemed in all to be relieved, the frequency of the pulse reduced, the powers of the system generally upheld, and the stomach and bowels in no way irritated. Two circumstances I would particularly notice with regard to the perchloride in the cases in which I tried it. One which I carefully noticed was, that its use seemed in no way to be contra-indicated by headache and sensorial disturbance; instead of increasing, it seemed to diminish these unpromising symptoms. The other circumstance to which I would particularly direct attention is, that in the above cases the serous effusion was, throughout the entire course of the disease, less copious, and also disappeared much more quickly, than in the generality of equally grave examples which I had previously seen.

Two persons, who had a very severe attack, stated to me spontaneously, without my directing their attention in any way to the subject, that they very speedily felt a most decided general benefit from its use; and the others, on inquiry, said they "felt it keep down the fever" and speedily diminish the "tightness" of their face.

The taste of the perchloride is to some very unpleasant, but it may be quickly removed by thoroughly washing out the mouth with water immediately after taking the solution. Special attention ought to be paid, during its employment, to act on the bowels from time to time by some very mild laxative. What its specific mode of action is, I do not pretend exactly to know. Perhaps it may act beneficially, in virtue of powerful tonic properties, or its therapeutic value may reside in some peculiar influence it exerts on the blood, in consequence of its powerful disinfectant properties, or in its imparting tone to the capillary system, and counteracting the general relaxation of the capillary vessels. In the cases in which I used the medicine, I ordered it to be taken in quantities varying from fifteen to twenty drops every two and a half or three hours, according to the peculiarities of each case. This was persevered with till convalescence was fairly established, after which the iron was greatly reduced, and drachm and a half or two drachm doses of liquor ammoniæ acetatis ordered to be taken three or four times a day at proper intervals. The liquor ammoniæ acetatis acts very beneficially in the convalescent stage, by being a very gentle stimulant to the nervous and vascular systems, a mild diaphoretic, and an unirritating diuretic; and thus, by gently stimulating the functions of the skin and kidneys, it fulfills the last-named indication of treatment. In the course of any attack of erysipelas, just as in all fevers, the lowering effect of the disease may become so great, and the tendency to death, from failure of the vital powers, so strongly marked, as imperatively to call for the use of powerful stimulants. The employment of these agents, in this and in all diseases, to be beneficial, requires the greatest prudence and judgment in their selection and apportionment, and the most careful watching of the effects they produce. The exact form of stimulant, whether wine, brandy, or other spirit, must be determined by the particular situation of each individual case, and the previous habits of the patient.

The delirium and coma which so often accompany erysipelas are, according to general consent, the result of diminution or arrest of the cerebral energy, caused by mal-nutrition of the brain substance, and to be treated most successfully by the cautious use of stimulants. Cases, however, may occur in which some of the symptoms of genuine phrenitis appear, and then it might be judicious to employ some form of local depletion.

The bronchitic attacks are to be treated by mustard cataplasms, blisters, or turpentine stupes to the chest; but the two latter I have once or twice seen irritate the renal organs very much in this disease. Should the attack supervene when the system is very low, stimulants must be given; but if during the period of convalescence, some simple stimulating expectorant, in addition to the counter-irritation, generally suffices for cure. If symptoms of œdematous effusion into the submucous tissue of the glottis and epiglottis arise, the speedy performance of tracheotomy affords almost the only chance of saving life. Of all local applications, perhaps the most serviceable and least objectionable, under all states of the skin, are flannels wrung out of hot water. This application, no doubt, is open to the objection of requiring almost constant attention, and of occasioning considerable trouble for its proper employment; but its advantages in many respects over unguents, dry powders, or other appliances, more than compensate for these slight drawbacks. When proper precautions are taken to maintain a uniform heat, by frequent renewal of the flannels, the application possesses the great advantages of being cleanly, generally agreeable to the feelings of the sufferer, unirritating to the skin, calculated to prevent any repression of the external inflammation, and not forming, as unguents and powders do, with any exudation which may have taken place, the scabs and crusts which become sources of great local irritation, and general discomfort to the invalid.

97. As a general rule, nothing can be easier than the cure of scabies. The principle to be kept in view is, to make such applications to the skin as will not irritate it too much, but which will reach the parasite and kill it; after which, the exciting cause of the disease being removed, the secondary eruptions generally disappear without treatment. In some cases, however, when these are very severe, as, for instance, when large ecthymatous pustules have been developed in abundance, it may be necessary to allay them before applying a parasiticide, which is necessarily more or less irritant in its nature. This is done by antiphlogistics, warm and emollient baths, (prepared by putting a couple of handfuls of potato-starch into a warm bath,) and cataplasms locally, while opium (internally) is sometimes necessary to allay the itching for a time, and the desire to scratch the skin consequent upon it. The preparation to be used, and the manner of its employment, must vary according to the degree of delicacy of the skin of the patient, for in the case of those whose cutaneous envelope is fine and sensitive, it is much better to take a little longer time to

destroy the acari, than, by irritating the skin too much, to risk the production of manifold, annoying, and often obstinate eruptions.

In healthy adults, such as one frequently meets with amongst the working classes, whose skins are coarse and not over-sensitive, who are not subject to cutaneous eruptions, such as eczema, and in whose cases the secondary eruptions produced by the scratching are not very severe, the treatment recommended by Hardy, the most rapid and the most effectual in killing the acari, may be put into practice. The *whole* body of the patient is first of all thoroughly scrubbed with good black soap, and this process should be continued for half an hour. He is then put into a warm bath and kept there for half an hour also, after which the *whole* body is rubbed over with the following modification of the pomade of Helmerich: ℞.—Subcarbonatis potassiæ, ʒj.; sulphuris, ʒij.; axungiæ, ʒxij. The next morning the patient takes a warm bath to remove the pomade, and the cure is complete as regards the destruction of the acari, while the secondary eruptions soon disappear. The genuine pomade of Helmerich is one-third stronger, but it is rather too irritant. The potash in the black soap and in the pomade acts as a dissolvent to the epidermis, thus allowing the sulphur to come into more immediate contact with the acarus, while, at the same time, it is an irritant to the insect. The warm bath is of service in washing off the black soap and dirt, and in causing the removal of the softened epidermis. Patients in private practice will often be intolerant of this kind of treatment, and it is besides quite inapplicable to children and females, and to men who have delicate skins, as well as to those who are subject to constitutional affections of the skin. In these cases we must use milder means, although the destruction of the parasite is a slower process. It is better, however, to proceed slowly and surely, than, by means of powerfully irritant treatment, to kill the acari at once, and, at the same time, to produce eruptions which may last for months. Under these circumstances the patient should clean himself thoroughly in a warm bath with ordinary (being much less irritating than black) soap, and then the lotion recommended by Vleminckz, of Belgium, with which the Belgian army is treated, should be applied. It is the following: ℞.—Calcis, ℥ss.; sulphuris, ℥j.; aquæ, ℥viii. Boil and stir constantly till a homogeneous mixture is produced, then pass it through a sieve. This quantity is more than sufficient for one person. Some of it should be rubbed into the skin, but not too roughly, and it is much less irritant than Helmerich's ointment. The application is to be repeated every night for several evenings, and the parasite dies, without secondary eruptions being produced.

Hebra's modification of Wilkinson's ointment is a very good one, especially so when the person affected is predisposed to eczematous eruptions, or where the scratching has already brought them out. It is the following: ℞.—Sulphuris, olei fagi, āā., ℥vj.; saponis viridis, axungiæ āā., ℔j.; cretæ, ℥iv. M.

In this preparation the potash in the black soap acts, as before stated, as a dissolvent to the epidermis and the chalk in removing it mechanically, the tar counteracts the tendency to, or cures the existing eczema, and the sulphur destroys the acari. This ointment should be well rubbed in, after the skin has been prepared for it by cleaning the body with common soap in a warm bath. The patient may either wash off this ointment soon afterwards, or may leave it on over night and wash it off in the morning, in which latter case the cure is more rapid. In either case, however, more than one repetition of the above process is generally necessary to effect a cure.

When females or others with delicate skins are affected, and when the smell of sulphur is objected to, sulphur soap may be used, which is nicely scented, and the disagreeable odor concealed. The body should be scrubbed every night with it in a warm bath. This is the mildest of all the methods of treatment, and requires to be frequently repeated to effect a cure.

Or, instead of the above, the ordinary sulphur ointment may be used, adding to it an aromatic oil, as oil of lavender, oil of caraway, or oil of cinnamon, in the proportion of a scruple to an ounce of the ointment. It will be seen that all these applications contain sulphur as the active agent in the destruction of the parasite. Other substances also destroy it; but sulphur has been almost unanimously decided to be the most effectual.

I do not think it necessary to discuss the experiments which have been made on the length of time various preparations take to kill the acarus, after the removal of that insect from the body, because it is found to be one thing to kill the insect when it is brought into immediate contact with the medicine, and another to destroy it when it lies imbedded in the epidermis.

But whatever preparation is used, it is necessary that it be rubbed into the skin of the *whole body*, with the exception of the head, which is not usually attacked; for if one impregnated acarus is left unscathed, the disease will soon be as bad as ever.

It is needless to refer to any more of the very numerous methods of treating scabies, for, with the above selection, any case of scabies may be successfully treated.

Finally, it is necessary to destroy the insects and eggs, attached to the clothes of the affected person. For this purpose they should be exposed to hot air (at the temperature of 150° F.) for some time; or, if washing clothes, they should be put into water which is nearly boiling, in which the acari cannot live. For this purpose, also, they may be exposed to the action of sulphur vapor; but this is apt to discolor the clothes, and to give them a disagreeable odor.

In the treatment of Scabies Norvegica, the crusts may be removed by repeated baths, opiates being given in the intervals to allay the itching. A parasiticide, containing sulphur as the active agent, and tar to counteract the eczematous eruptions, should then be used. It is not necessary, however, to enter into minutiæ with regard to this variety, for it is merely an exaggerated form of scabies, and one which is decidedly rare; while each case must be, more or less, treated on its own merits.

98. Hippocrates and Celsus have already recommended the use of cold in fresh wounds of every kind; but this remedy shared the fate of many of our most important medicaments, being at several periods recognized and recommended by the most eminent surgeons of their time, and then again falling into oblivion. In recent times it has been again taken up and extensively employed, especially in military surgery. It has proved to be one of the best antiphlogistic remedies, without which (says M. Esmarch) he would throw up surgery altogether. There are still, however, many surgeons who do not employ cold at all in inflammation, and who believe that its use causes gangrene, phlegmone, tetanus, rheumatism of the joints, inflammation of internal organs, etc. This fear of the application of cold is certainly either inherited from the teacher, or it is due to the bad results which follow an injudicious employment of cold. Failure in such cases can as little deter the surgeon from using it in practice, as the deadly effect of large doses of opium will ever induce the physician to strike this remedy out of the Pharmacopœia. In whichever way cold may be applied, its proximate and immediate effect is always that it withdraws more heat from that part of the body acted upon than it would lose under ordinary circumstances. This withdrawal of heat is a strong local stimulus, and effects as such an energetic contraction of the organic muscular fibres of the skin and the blood-vessels. If the application of cold is soon afterwards discontinued, the blood-vessels again dilate, and more blood is carried to the parts; but if it is employed for any length of time, less blood is supplied, and the

local metamorphosis of matter is limited, because the tissues of that part of the body which has been subjected to the action of cold gradually assume so low a temperature, that the chemical processes within them are more or less impeded. Elevation of temperature, however, is, according to the most recent researches, one of the most important symptoms and the chief element of inflammation; the increased temperature is only caused by an increased metamorphosis of matter, and by a larger supply of blood to the vessels of the inflamed part. It is, therfore, evident that cold, dimimishing as it does the temperature of the inflamed parts, and cutting off the sources of the abnormal local heat, is one of the first antiphlogistic remedies, the action of which is, however, not confined to the local process. We may, in fact, if we apply cold for a certain length of time, and to a sufficiently large part of the body, even diminish the morbid heat of the whole blood, (fever,) as the blood which is propelled from the heart through the vessels of the cooled parts has continually a large amount of its heat abstracted; so that at last the thermometer, applied to any part of the body, shows an evident diminution of temperature.

We may employ cold either wet or dry; the former by means of wet fomentations, immersion and irrigation, the latter by means of bladders and bags. The most common method is that of bandages, cooled either with cold water or ice; this is the least certain way, for if they are not very frequently renewed they prevent the radiation of heat from the parts, and therefore increase, instead of diminishing, the heat; but if they are changed very often, the temperature may be permanently diminished. The continual touching and troubling of the inflamed parts, the almost inevitable wetting of the linen and blankets, and the injurious results consequent upon this, are, however, so serious drawbacks, that this method should never be employed, at least not in severe cases.

The local bath, or the immersion into, and the irrigation with, cold water is much more useful. The withdrawal of heat is, by both these methods, very considerable, as during irrigation new quantities of cold water come continually into contact with the surface of the inflamed part, and during immersion currents are produced in consequence of the heating of those layers of water which are nearest the immersed part, so that the colder layers come continually in contact with the surface of the immersed part. For this reason, the water must not be of too low a temperature, as otherwise freezing would follow. Warm baths of 80° to 94° F. are, therefore, in this sense antiphlogistic, as there is still a considerable difference between the temperature of the body and that of the bath. One inconvenience of this mode of application is, however, that we cannot prevent the effect of wet, which is generally not at all desired. Swelling of the epidermis, imbibition of the wounded surfaces, and rheumatic pain, frequently come on, in consequence of the cooling of neighboring healthy parts; the pain especially becomes sometimes insupportable to the patient; besides which, both these methods can, unless very complicated contrivances should be at hand, only be used for the extremities, and even in them only up to the upper third of the arm, and below the knee, so that the inflamed parts must generally be kept in an inclined plane. These are inconveniences which very much diminish the value of these two methods.

The most certain and least inconvenient way is to employ dry cold by means of bladders or bags of vulcanized india-rubber, filled with ice, which are far preferable to animal bladders; these latter are not quite waterproof, and after some time begin to smell offensively. They are likewise better conductors of heat than india-rubber, so that freezing may be the consequence if they are employed for any length of time. Another advantage of these bags over animal bladders is their durability, as they will, if carefully used, last many months, and are therefore very suitable for hospitals.

When no ice is to be had, M. Esmarch recommends the application of dry cold by means of reservoirs made of such matter as conducts heat well, as glass or metals, and which are to be filled with water, which should be frequently renewed.

In treating poor patients, M. Esmarch has often employed common medicine bottles filled with cold water, well corked up, and changed as soon as they became warm. These may be used in the axilla, the palm of the hand, the inguinal region, and on the neck. The forearm and the calf may be placed on wine-bottles filled with water; on other parts, as the chest and abdomen, flat gin-bottles should be used. For the back and the nape of the neck, boxes of thin sheet-iron are suitable, one surface of which is made so as to fit closely the part of the body. These are filled with cold water by means of a funnel and emptied by means of a siphon, as soon as the water has become warm.

The constant withdrawal of heat should be resorted to in all acute and violent inflammations, especially of important parts, either superficial or internal organs, such as the heart, the lungs, etc. In many cases of chronic inflammation, especially of the joints, cold has also been found so efficacious that it ought not to be neglected.

As to the time during which the cold should be employed in a given case, it is not well to limit it to the first stage of inflammation, but it ought to be continued even if suppuration and gangrene (when due to violent inflammation) have set in, as these processes take a much more favorable course when treated by cold than by cataplasms. The sensations of the patient have to guide us in the question how long the cold should be continued at a time. If the withdrawal of heat becomes unpleasant, or if rheumatic pains come on, the application of cold must be discontinued.

99. Dr. Mattei relates the details of a case of extra-uterine gestation which occurred in his practice, and states the following results of his examination of the details of 100 recorded cases, references to most of which he furnishes. Of the 100 women, 12 died accidentally, after having retained the result of pregnancy during several years; 5 died in consequence of the accidents of pregnancy, without the cyst having opened externally. In 37 instances an opening was made into the cyst through the abdominal walls—viz., spontaneously in 21,(20 of these women recovering,) in 7 with the concurrence of art all recovering, and in 9 by gastrotomy, all recovering. In 8 cases the opening took place into the bladder, 2 of the women dying. In 7, into the vagina, the opening being spontaneous and fatal in 2, and artificial, with 4 recoveries, in 5. In 31 cases the opening took place into the intestinal canal, either with the intervention of art or not, and of these 12 recovered and 19 died. The author's conclusions are: 1. Old extra-uterine pregnancies allow of life being prolonged for many years, but such cases are rare, (12 per cent.,) and are especially met with when the fœtus dies at an early period, and when the cyst has remained of small size. 2. Extra-uterine pregnancy may (5 per cent.) become the cause of death without the cyst opening externally or into a mucous membrane. 3. Whether the cyst gives rise to accidents prior to or subsequent to its being opened, it is not easily tolerated by the economy, and is expelled in more than a third of the cases in from one to two years, in a sixth between two and five years, and so on in decreasing progression. 4. Of all the modes of termination, that by an opening through the abdominal walls, whether spontaneous or artificial, has been the most frequent (38 per cent.) and the most favorable, serious inflammatory accidents and resorptions scarcely ever occurring. 5. Opening into the bladder is rare, (8 per cent.,) and less often followed by recovery. 6. That into the vagina is somewhat rarer still, (7 per cent.,) and what is surprising is, that it is much oftener fatal, especially when art does not intervene. 7. Opening into the intestine is of frequent occurrence, (30 per cent.,) and is the most fatal of all terminations, three out of five women dying.

8. It is imprudent to treat these cases by expectation, unless, indeed, the cyst is small; and even then it must be at once evacuated, when there are symptoms of an opening taking place, such as sudden change in the health, fever, rapid emaciation, the disappearance of fluid from the cyst, local signs of reaction, and especially diarrhœa. 9. When there is time to wait, it is best to open the cyst at different stages, caustics being often preferable to cutting instruments. 10. If we have the choice of the place where the aperture is to be made, this should be in the abdominal parietes; but if Nature has commenced the eliminating process at any point, it is there we must act, and that as promptly as possible, especially if this be the intestine.

100. Paul Dubois recognizes two varieties of rigidity of the os uteri, *spasmodic* and *mechanical.* The spasmodic is the most common; the vagina as well as the cervix being hot and dry, and the os thin, hard and unyielding. In mechanical rigidity the cervix is hard also, and feels much like unimpregnated uterine tissue. As to treatment, in the first variety, when the woman is quite robust, a small bleeding will be of great benefit; when not so robust, a prolonged bath. Extract of belladonna smeared on the cervix does not, according to Dubois, deserve a great deal of confidence, though it seems he frequently makes use of it. [He does not speak of its employment as a prophylactic.] The treatment that he prefers and most recommends consists in making small incisions with a guarded bistouri. A little blood flows, and the delivery soon occurs; labors which had lasted for forty-eight hours sometimes terminating in a few minutes after the operation, and no ill result ever following. In mechanical rigidity the same course is recommended; indeed, no other means, he says, should here even be first tried, as the incisions soon terminate the labor depending for the delay on this hindrance, while rupture of the uterus may occur if the case be left to nature.

101. Charrière has arrived at the following conclusions from a careful examination of one hundred pregnant women indiscriminately, as they offered themselves to his notice. The observations were undertaken to test the accuracy of Cazeaux's assertion, that seven-eighths of all pregnant women had ulceration of the neck of the womb. (1.) Leucorrhœa precedes and gives rise to ulceration of the cervix. (2.) The congested conditions and processes of hypertrophy taking place in the pelvic organs are the causes of this leucorrhœa. (3.) At first a physiological condition, it may become morbid under the influence of a bad state of health. (4.) Nearly two-thirds (72 per cent.) of pregnant women have leucorrhœa. (5.) Nearly eight-tenths (56 of 72)

of these subjects of leucorrhœa have ulcers of the cervix. (6.) Of these 56 women, 41 were multiparæ. (7.) For the treatment, we should confine our attention to the general condition, giving mild aperients and preparations of iron, and remedying disorders of the digestive organs. Local treatment would doubtless frequently induce abortion.

REVIEWS AND BIBLIOGRAPHY.

A Practical Treatise on the Diseases of the Sexual Organs of Women. By F. W. Von Scanzoni, Prof. of Midwifery and Diseases of Females in the University of Würtzburg; Counselor to his Majesty the King of Bavaria; Chevalier of many Orders. Translated from the French of Drs. H. Dorr and A. Socin, and annotated, with the approval of the author, by Augustus K. Gardner, A.M., M.D., Prof. of Clinical Midwifery and Diseases of Women in the New York Medical College; Author of the Causes and Curative Treatment of Sterility; Editor of Tyler Smith's Lectures on Obstetrics, &c. New York: Robert M. De Witt, pp. 669. 1861.

No branch of the profession of medicine has within the last half century (which may truly be styled its Augustan age) advanced with more rapid, certain and enduring paces, than that which has of late received the name of Gynecology. More perfect means of diagnosis have thrown floods of light on conditions which before their adoption were surrounded by the mists of uncertainty, while the study of the class of diseases peculiar to the female being made a special field for investigation, has resulted in a more extended, intelligent and accurate pathology, which has served to remove them from the domain of empiricism, and bring them into that of exact therapeutics. What the microscope has done for diseases of the kidney, and physical diagnosis for those of the heart and lungs, the speculum, aided by the uterine sound, has accomplished for affections of the uterus and its concomitant viscera; and now, instead of surmising as to the existence of a diseased condition of these organs, the favored modern obstetrician reduces his suppositions to certainty, by processes as reliable in their revelations as those by which the surgeon ascertains the nature of the injuries inflicted upon a bone or joint. In a short space of time much has been accomplished, and yet this branch of our art has been so far by no means fully developed, and the labors of hundreds of capable and devoted investigators are daily adding to our store of knowledge and means of relief.

Large numbers of works have been given to the profession by its most gifted pens, and so rapidly do monographs upon it accumulate that he must needs be a most industrious student who keeps pace with the rapid march of this single branch. The latest addition to the works upon this subject is that whose title heads this article, and into its merits we now proceed to enter.

The original lectures of Scanzoni were translated into French by Drs. Dorr and Socin, and from the French into English by Dr. A. K. Gardner, of this city. This rendering into a second language before being given us in our own is likely at first glance to strike the examiner as a disadvantage, but an examination of the work before us will, we think, convince him to the contrary. In every country there is a great deal of unwritten experience, many unpublished views, and numerous points of thereapeutic value, which, spite the facility of international communication, travel but slowly from land to land. By the triple publication through which this work has passed the English reader becomes informed upon the most recent views of three nations, and the work, by a species of literary accretion, becomes trebly complete and comprehensive. On the other hand, no one will doubt, who examines the text, that the American translator has faithfully rendered the author's meaning, and given in their integrity his precepts.

The work is divided into seven parts, and these again into chapters, articles, and sections.

Part 1st is devoted to the consideration of the pathology and therapeutics of diseases of the uterus, occupying 356 pages.

Part 2d, consisting of ten pages, treats of the pathology and therapeutics of the diseases of the ligaments of the uterus.

Part 3d treats of the pathology and therapeutics of the diseases of the Fallopian tubes.

Part 4th treats of the pathology and therapeutics of the diseases of the ovaries, 98 pages being consumed in it.

Part 5th treats of the pathology and therapeutics of the vagina.

Part 6th relates to the external organs of generation, and Part 7th to the diseases of the breast.

All this is arranged in a manner at once simple and methodical, which adds much to the facility of reference, and prevents confusion in the mind of the student. The important points of the subject-matter, and words which indicate the subject of the text, are put in heavy black type, which at once arrests and fixes the attention, so that by hastily glancing over the pages the thread of the work may readily be followed.

In addition to these advantages, a comprehensive and practical index (a point apparently above the grasp of the French mind) completes the ease with which the American edition of Scanzoni may be consulted.

A very superficial examination of the text will suffice to convince the reader that our author is by no means an amateur; every part of the work bears the stamp of a practical and experienced physician, whose investigations have not been confined to the closet, but made at the bedside.

The obstetric practitioner will be pleased to see that, wherever practicable, pathological conditions, developed by autopsic research, are systematically introduced—a portion of the subject too often neglected, even by some of the latest writers in this department.

Having made some general remarks upon the symptoms of uterine diseases, the author thus enumerates the physical means of diagnosis:

Palpation.
Inspection and auscultation.
Vaginal touch.
Rectal "
The speculum.
The uterine sound.
Sponge-tents.

In speaking of the rectal touch, he says, "We ought invariably to have recourse to it when having to do with the diagnosis of a displacement of this organ, a fault in conformation, or any species of tumor."

It need scarcely be said that he is an advocate for the judicious use (although opposed to the abuse) of the speculum; to say otherwise would be to brand him as one who had been left behind in the race, and destroy the confidence of all progressive gynecologists in his views. He opens the subject thus:

"The introduction of the speculum into the practical treatment of the diseases of females is an attainment of our day: it has inaugurated a great advance not only in the diagnosis, but in the therapeutics of the diseases of the genital organs. In fact, without the aid of this instrument the successful and rational treatment of a great number of these diseases would be as impossible as those of the heart and lungs without auscultation and percussion. We, however, have no intention of claiming that the speculum is indispensable for the diagnosis of all the affections of the uterus and the vagina. Still, it is not uncommon for the practitioner who uses this instrument to discover morbid changes, of which at first he had not perhaps even suspected the existence, but which it was important for him to know in order to treat his patient with success. We will cite but a single example from the numerous cases which enter into this category. A woman suffers for a long time from an abundant flow of mucus, with which occasionally a greater or less quantity of blood is mixed. Manual examination discovers only a great relaxation of the vaginal walls, with a slight tumidity of the neck. The physician who rests his diagnosis upon these facts, orders divers medicaments, extolled for the treatment of leucorrhœa—injections, hip baths, *cures de bain*, etc. —up to the time when the slight results which he has obtained induce him finally to have recourse to an examination with the speculum. It is not till then that he discovers the veritable cause of the persistence of the disease. He recognizes that the increased secretion has its origin in the uterine cavity, which is inaccessible to the medicaments he has employed; he perceives the excoriations on the margin of the orifice, bleeding at the slightest touch; and the knowledge of these new facts permits him to begin a course of treatment which will cure the patient of her ills in a comparatively short time."

The instruments which he recommends are the ordinary glass speculum of Ferguson, and the valvular ones of Ricord, Segalas, and Charrière, all of which, except the first, are far surpassed by those of Tieman and Sims, which the translator introduces.

Of the uterine sound he seems to have a wholesome fear. "We would be far from denying to the sound all claims of utility for certain diagnostic or therapeutic purposes. Still, a long use of this instrument, continued during several years, has convinced us that the advantages which it promised in its principle are not so numerous or so great as one might be led to suppose. If, in our days, some practitioners suppose that exploration by the sound is indispensable for the certain diagnosis of the greater proportion of uterine diseases, we are convinced that this modern opinion will, for good reasons, be soon renounced for more true ideas on this subject.

"In the first place, the use of the uterine sound is by no means so harmless as has been asserted. One may have all the familiarity and dexterity possible in the management of this instrument; but that will not at all prevent that, in certain cases, its introduction into the cavity of the womb will be met with great difficulties, and will cause irritations more or less serious, and lesions of the mucous membrane. A good number of cases are known where the uterine sound, even in the hands of the most skillful and most celebrated practitioners, has excited abortions, caused violent uterine colics, and even metritis and peritonitis, seriously compromising the life of the patients. In consequence, even were the sound capable of giving the most important knowledge, in a diagnostic point of view, the physician would be bound to use the greatest prudence in its employment. How much the more now that we are convinced that its utility is at least very secondary! For it is undoubted, that the employment of this instrument will very rarely assist to establish the diagnosis of diseases which other modes of exploration cannot enable us to determine." The sounds recommended are those of Kiwisch, (which closely resembles Simpson's,) and that of Valleix. It is with surprise that we notice here an important omission on the part of the editor in not mentioning the sound of Sims, and that of Tieman, which is by far the best now used, according to our experience.

The sponge-tent he advises to be applied thus: "A metal staff, fixed in a handle, of the length of nearly 10 to 11 inches, and bent at an obtuse angle at $1\frac{1}{2}$ inch from its extremity, is thrust into a cone of prepared sponge 2 inches long After having previously introduced the index finger into the vagina, the instrument is glided upon the pulp of the finger, the sponge is engaged in the orifice, and then it is gently pushed into the neck. This swells little by little, and dilates the neck. At the end of twenty-four hours the sponge is withdrawn, and a second one, larger, is introduced, until the dilatation of the canal shall be sufficiently considerable to admit the introduction of the index into the cavity of the body. The presence and nature of a foreign body can then be directly recognized by the touch."

A general *résumé* of therapeutic means which he advises gives us sanguineous emissions by leeches or scarifications.

Use of caustics: solid, as nit. argt.; or fluid, as sol. nit. argt.; acid. nit. hdg.; tr. iod.; acid. pyrolig., or concentrated sol. of alum.

Use of ointments, as in medicated pessaries, containing mercury, zinc, lead, narcotics, &c., &c.

Use of vapor of chloroform; and the editor adds, injection by Wood's hypodermic syringe into the structure of the uterus itself.

Tamponing the vagina, and vaginal injections.

In alluding to intra-uterine caustic injections, he says:

"It has been feared that a part of the liquid injected might penetrate into the cavity of the peritoneum by the Fallopian tubes, and thus give rise to a more or less intense peritonitis. Although we have no intention of formally denying the possibility of this accident, we can, however, assert that in the numerous cases where we have adopted this mode of application, nothing like this has occurred. We have observed, it is true, that the injections were followed by violent pains in the regions of the womb and the sacrum; but they had either the character of uterine colics, and were due to the presence of liquid in the cavity of the uterus, or else they had for their cause an acute metritis, communicated from the mucous membrane to the parenchyma of the organ, and occasioned by the shock of a too powerful caustic.

But accidents of this character have disappeared since we adopted the rule not to make injections, save when the cavity of the neck and orifice were sufficiently large to allow the rapid flowing out of the liquid. At the most, the quantity of this should not surpass ℥j. to ℥ij. We use small glass syringes, [those lately made of hard india-rubber are far better,] the long and narrow neck of which is bent like the uterine sound. It ought to be pushed up to the fundus of the organ, in order that the jet of liquid gently thrown out should strike there and return along the walls of the cavity towards the exterior orifice."

To this the editor adds the following pertinent note:

"Formerly we were accustomed to throw fluid injections into the cavity of the womb by means of a silver syringe, as described in our 'Causes and Curative Treatment of Sterility,' but the metritis or uterine colic which followed so frequently, accompanied by such serious symptoms, sometimes apparently threatening the life of the patient, made us gladly seize upon a substitute possessing all the advantages without any of the inconveniences and dangers of the former. This we found in the use of ointments, which by means of a canula and piston were pushed into the cavity of the womb. The operation is very simple. The entire instrument is about a foot in length, consisting of a hollow tube of German silver or hard rubber, to which is fitted a piston. Withdrawing the piston, the tube is loaded with as much ointment as may be desired by plunging the extremity forcibly into it. The piston is then inserted up to the ointment. Guiding the instrument thus loaded by the index finger, it is passed through the os uteri into the cavity of the womb. By pressing on the piston the ointment is left in the womb, causing little, if any, disturbance, local or general. We append two formulæ for ointment to be thus used:

℞.—Argent. nitratis, .	ʒij.	℞.—Plumbi acet., .	ʒij.
Ext. belladon., . .	ʒj.	Morph. sulph., .	grs. iv.
Ung. spermacet., .	℈ij.	Butr. cacao, .	℥ss.
		Ol. olivæ, . .	q. s."

(To be continued.)

TRANSLATED FROM THE FRENCH, EXPRESSLY FOR THE MONTHLY.

Lectures on Diphtheria. (Egyptian Disease.) Delivered at L'Hôtel Dieu, Paris. By M. TROUSSEAU.

(Translated by the Editor from La Clinique Médicale de L'Hôtel Dieu, of M. Trousseau.)

(Continued from page 239.)

Treatment of Diphtheria and of Croup.

All Antiphlogistic Medication must be Absolutely Rejected.—Alterative Medication.—Mercurials useful as Topical Agents: their Disadvantages.—The Alkalines and the Bicarbonate of Soda in particular are of very questionable Utility.—The Chlorate of Potash is Beneficial in Mild Cases.—Emetics have more Disadvantages than real Advantages.—Blisters: their Application is attended with the gravest Consequences.—Topical Medication (Astringents and Caustics) is the Medication, *par excellence*, for Diphtheritic Affections.—Catheterism of the Larynx.—Indispensable Necessity of Strengthening Patients by proper Nourishment and Restorative Medicines.

GENTLEMEN—When it was well established by all physicians that the pellicular affections were in their nature inflammatory; when in respect to croup in particular it was an accepted fact, that it was the result of a phlegmasia of the mucous membrane of the larynx, it appeared, at the first view, rational and easy to check at once this inflammation, which was generally of slight extent. If, indeed, we take into consideration the local lesion alone, a diphtheritic spot developed upon the skin, overspreading even the surface of a large blister, is in appearance but a slight matter; if we examine the throat of an individual attacked with membranous angina, the swelling of the tonsils is very moderate, and the membranous exudation is not at first very extensive. Surely a local disease so circumscribed as this is, and giving rise to a febrile reaction of such insignificance as this at first, should readily yield to a sufficiently energetic antiphlogistic treatment, especially when other phlegmasiæ of far greater extent and intensity do not resist it.

Local bleeding (leeches and cups) and general bleeding, when needed, would seem therefore to be indicated in order to afford a prompt remedy for these inflammations, which are introduced with an appearance primarily so free from danger. Theory is found at fault here also, as it is too often found in other matters in practice. Without doubt, gentlemen, cutaneous diphtheria, membranous angina, and croup, are inflammations; I admit this, as does everybody; but in putting forward this fact we do not sufficiently consider another fact which governs it; we do not give sufficient weight to the specificity of these inflammations. As I have told you, when considering with you this important subject of specificity, specific diseases are personal diseases, over which the medications which we may call physiological have generally but little influence. In the greatest number of cases they make fatal progress. When a variolous pustule has once developed itself, whatever may be the intensity of the inflammation which accompanies it, all the antiphlogistic remedies of the materia medica would not hinder this pustule from running its course. In order to arrest its progress, you must destroy it by other means. To take the example of an affection which presents a more striking analogy with that we are studying, if a malignant pustule be once developed, general bleeding, applications of leeches and cupping glasses, however frequent and however abundant they may be, will not check the progress of the disease; they will more probably do considerable injury to the patient.

And in the same way in diphtheria, by the very confession of those who, taking a middle course, admit its utility in some cases, the antiphlogistic medication does not overcome the disease. And in my opinion, gentlemen, this utility, which some physicians persist in recognizing, is very questionable. I hasten to add, that a long experience has proved to me that this medication was not only useless, but that it was also essentially injurious in a disease septic in its nature, and susceptible of throwing the economy into a condition of considerable prostration, even when no cause of debility has intervened.

What I have said concerning antiphlogistic medication is equally applicable to the *alterative medication*, which is an adjunct of the former. Now, among the agents of this alterative medication, mercury and its compounds occupy an important place. The mercurials, as you know, are considered as the most powerful antiphlogistics in the materia medica, and perhaps their power is even greater than that of blood-letting. You have seen a hundred times the effects which we obtain by means of them in certain phlegmasiæ of the serous membranes; you are not unaware that this happy influence has been vaunted over those inflammations so very serious by reason of their extent, their seat, or by reason of the febrile reaction which they excite. Well, *mercurial preparations*, calomel given internally, and Neapolitan salve applied by friction to the skin, have been tried in England, in Germany, in America, and in France, under the head of antiphlogistics, in the treatment of diphtheritic affections, membranous angina and croup. The results, I must say, have often been happy. Without the aid of any other medication, calomel administered *fracti dosi*, according to the method of Dr. Law, has cured a certain number of patients.

This, gentlemen, would seem to be a contradiction of the proposition which I have just stated; it is because the subject is a very complex one. Calomel, in fact, mercurial preparations, are an *argumentum bis feriens.* Mercury has two modes of action: on the one hand, it acts generally upon the human economy, and in this case it is an alterative, antiphlogistic medicament; on the other hand, its action is exclusively topical. When you prescribe lotions of phagedenic water for the skin, or of a solution of corrosive sublimate; when you instill into the eye mercurial collyrium, and when you apply to the eyelids moist or dry collyrium with the red preciptate, or the protochloride, or when you give fumigations with quicksilver, you adopt an essentially local treatment, and it is only indirectly that you obtain general effects; you make use of a substitutive medication. It is only at a later period, and by persevering in this treatment, that the mercury acts upon the blood, which it modifies then, after the manner of alterative medicaments. Now, as a topical agent, the protochloride of mercury appears to me to be really useful in the treatment of diphtheritic affections. Applied upon the pseudo-membranous wounds, it modifies them beneficially; and if in diphtheritic angina it has rendered real service, it has done so by acting in the same manner. When administered in fractional doses (0.05 grammes mixed with 4 grammes of sugar, and divided into twenty powders, one to be taken every hour,) to an individual attacked with pharyngeal diphtheria, it passes, mingled with saliva, across the pharynx, touches the diseased surfaces, and modifies them as it modifies the wounds of the external integument. I do not, however, dispute the general action which this medicament may have, for, absorbed in the digestive passages, it produces considerable effects; it modifies the bulk of the blood, it augments its fluidity, and puts it in such a condition that its secretions may be less plastic than they were before. I dispute this general action so little, indeed, that I fear it, and because the topical action appears to me to be alone useful. When we limit ourselves to making repeated *mercurial frictions*, we very soon bring on that peculiar dyscrasia of the blood; we produce the phenomena which depend upon it, we provoke salivation, and yet in these cases we do not cure the angina. From the very reason of this general action upon the economy, the mercurial treatment is attended with still more danger. As its effects vary according to the individual predispositions, we run the risk of seeing it pass beyond the bounds within which we would restrain it, and in these circumstances we discover the disadvantages of the antiphlogistic medication, which, if it does not immediately aggravate the disease, may prolong convalescence, by augmenting the debility into which, I repeat, the patient will be thrown by the disease itself.

I have now to speak to you concerning other alterative medicaments. Some years ago, Dr. Marchal (de Calvi) published several facts seeming to prove that the use of the *bicarbonate of soda* was advantageous in the treatment of diphtheritic affections. He thus restored to an honorable position the *alkaline medication*, which, extolled for some time, had soon fallen into discredit. The subcarbonate of ammonia, administered as well internally as externally, had been lauded by Rachou, but this medicine, difficult of use and sometimes dangerous, had been abandoned. Chamerlat had prescribed gargles with hydrochlorate of ammonia, and Mouremans had reported in the *Encyclopédie des Sciences Médicales*, for the year 1839, a case of pseudo-membranous laryngitis cured by the bicarbonate of soda. This alkaline medication had been almost entirely abandoned, when Dr. Marchal again brought it into notice; and other practitioners proclaiming in their turn successful results obtained—results in some cases real but purely fortuitous, in others doubtful or very questionable—public attention was called to the treatment of diphtheria by means of the bicarbonate of soda; and soon enthusiasm being aroused, we were not far from believing that we had found in this medicament the specific for diphtheritic affections, and even for croup. Calm observation and sober reflection showed the reason of these marvelous results, and reduced matters to their just value. It was easy, in fact, to see that in the cases in which the alkaline salts had cured membranous affections, we had had to do with scarlatinous membranous affections. Now, I have told you that scarlatinous anginæ generally pass away of themselves. On this account alone, therefore, the facts lost their importance. The theory, however, had something seductive in it, and I had myself given it a prominent place in my *Treatise on Therapeutics*, when I wrote that it was permitted to hope for some benefit from the alterative and antiplastic action of the bicarbonate of soda, in the modification of the general diathesis which seems to preside over the development of diphtheritic affections. This general action of the alkalines, the peculiar condition of the blood which they produce, is an incontestable fact, demonstrated long ago by our predecessors, and among others by Cullen; but this *alkaline cachexia*—for thus it is called—is produced only upon condition of making use of the alkalines for a long time; and consequently, however prolonged we may suppose the duration of the diphtheritic affections, it is never long enough for the alkaline medication to have the time to produce the antiplastic influence whose effects we await. These effects, moreover, far from having the advantages which it is pretended to obtain from them, have, on the contrary, serious disadvantages, for the alkaline medication incurs the same reproach as the alterative medication, whose dangers I have just now mentioned to you. There still remains, it is true, the topical influence of the bicarbonate of soda, whose dissolving action would aid in softening and detaching the false membranes. A longer experience has taught me not to count upon this topical influence, in which I formerly believed, and which others at the present day admit in their turn. The modifications introduced into the diphtheritic secretions by the alkaline solutions are far from being as powerful as they had formerly seemed to me to be.

There is another medicament, gentlemen, of which much has been said in these latter days, namely, the chlorate of potash. This salt, as you know, discovered about the end of the last century by Berthollet, made its entry, towards 1796, into the domain of therapeutics. In 1819, Chaussier proposed to give it for croup. It had been completely forgotten, when Dr. Blache, profiting by the experiments which Drs. Hunt and West had made in 1847 with this medicine in the treatment of gangrene of the mouth, and in that of membranous stomatitis, was led to try it in the treatment of membranous angina and of croup. Dr. Isambert, at that time assistant to Dr. Blache, followed carefully and intelligently the numerous trials which were made at the Children's Hospital, and took for the subject of his inaugural thesis, *Chemical, Physiological and Clinical Studies upon the Therapeutical Employment of Chlorate of Potash, especially in Diphtheritic Affections*, (*Paris*, 1856.) The first results obtained in the treatment of membranous angina, without being as satisfactory as in ulcero membranous stomatitis, were nevertheless encouraging. Facts and cases multiplied, and although the vogue which the chlorate of potash has enjoyed may have been greatly exaggerated, yet the facts gathered from all quarters authorize us to consider this medicament, if not indeed as an efficacious remedy, at least as being able to render some service in diphtheritic angina. But in this respect there are some reservations to be made; while we acknowledge with Dr. Isambert that the usefulness of the chlorate of potash in mild cases appears to have been demonstrated not only by a real and definitive success, but even by an entirely peculiar, and in some sort elective action upon the pharyngeal mucous membrane, analogous to that which is observed in membranous stomatitis, we deny its efficacy in the more severe cases. When in such cases I have seen it employed as an exclusive treatment, I have seen it in every instance fail; employed conjointly with other medications, it has seemed to me, without its being possible for me so to affirm, to have a really advantageous action. What I say concerning membranous angina applies with greater reason to pseudo-membranous laryngitis. Doubtless, also, from time to time, some cures of croup may be cited in the case of patients treated with the chlorate of potash, but these cases are by no means conclusive proof, for the reason that generally this remedy has been almost always associated with others, especially with emetics, which of themselves have sometimes sufficed to effect the cure and to explain the success. However, as this medicament is reputed to have a general influence upon the organism, and to hinder the reproduction of plastic exudations, and as it is not attended with the disadvantages which I have pointed out in the alkalines and mercurials, there are no objections to making use of it in so redoubtable a disease. Be careful, however, not to repose too great confidence in its virtues, and especially beware of employing it to the exclusion of other medications, of which experience has shown the efficacy, at least within certain limits.

I must also mention the medication by the *bromide of potassium*, employed in the dose of five to fifty centigrammes, and by *bromine* alone, a medication by means of which Dr. Ozanam declares that he has obtained remarkable success. In view of the too wonderful results proclaimed by the inventor of this remedy, which give rise to a doubt, and bearing in mind also that this physician follows in his practice a pathway which is not our own, we must maintain a prudent reserve; nevertheless, since, in respect to pseudo-membranous affections, experimentation is made on a grand scale in all quarters, there is nothing to hinder experimenting also with bromine.

This medicament and its compounds are not the only ones to which a certain specific virtue has been attributed. I would remind you that the *sulphuret of potassium*, warmly recommended by Lobstein, and Professor Fritz, (of Magdeburg,) in certain cases in which the diagnosis, it is true, was very questionable, has been lauded also by Dr. Maunoir, (of Geneva,) and after him by Drs. Rilliet and Barthez, who mentioned it in their *Treatise upon Diseases of Children.* This medicament is at the present day completely abandoned. I might say the same also of *polygala senega*, which has likewise enjoyed a great reputation, but which, owing to its emetic and purgative action, and the happy effects it has been able to produce, should be placed in the class of therapeutical agents of which I am now about to speak to you.

I come now to those means of treatment of pseudo-membranous anginæ and of croup, which I shall call indirect agents; these are the emetics and the revulsives.

Emetics have been, and still are, regarded by a very great number of physicians as one of the most powerful means which we have of combating croup. If, by the expression croup, we understand stridulous laryngitis, false croup, the history of which I shall give you, emetics are indeed useful, and there are reasons for this upon which I wish to dwell for an instant before you.

Whatever may be the special properties of the emetic medicament which you employ, whether it is the *white veratrum*, violet-root, asarum-root, or polygala, which I mentioned just now; or whether it is sulphate of zinc, sulphate of copper, or tartar-emetic, independently of the emetic effect, you will obtain an antiphlogistic effect. If, instead of having recourse to pharmaceutical means, you provoke vomiting by other means, the results which I mention will be the same. You will excite nausea, that peculiarly disagreeable condition which precedes the rejection of substances contained in the stomach. The pulse becomes small and frequent, the pulsations of the heart are very feeble, the countenance grows singularly pale, the body is covered with sweat; in a word, the patient is thrown for a time, which may be somewhat long, into a condition analogous to syncope; there takes place, in a less degree, something similar to that which happens to some persons after bleeding. You will understand from this, that by reason of a perturbation so profound, acting principally upon the nervous system, certain contro-stimulant effects are produced sufficient to extinguish slight inflammations.

Now, in false croup, the inflammatory element under the influence of which is developed the spasmodic element which causes the attacks of coughing and suffocation which we wish to combat, we can understand that emetics may be useful, since this inflammatory element does not generally go beyond the degree of slight phlegmasia; but when we have to do with an angina with pseudo-membranous laryngitis, matters assume a different face; in those cases we must no longer count upon the contro-stimulant action of the emetic medication, but only upon the mechanical action of the medicament. I will explain myself.

There is not one of us who, having had to treat children attacked with croup, has not noticed in some cases, subsequently to the administration of an emetic, a great amendment in the symptoms; it is because that then, as can easily be proven, the efforts at vomiting, by provoking the expulsion of the false membranes which line the larynx and the trachea, remove the obstacle which these false membranes opposed to the passage of air into the lungs, and render respiration easier. As for the dynamic action to which some practitioners award the honor of the good results obtained, this dynamic action might, at the most, exert some influence upon the inflammatory element which causes the production of false membranes, but it seems to me impossible to admit that it has any influence upon the false membranes themselves. Those who persist in seeing in the emetic medication, and particularly in the employment of tartar-emetic, which they extol, this dynamic action, in which I refuse to believe, distinctly admit that this action is much less real than they pretend it is, and that the mechanical action is far more efficacious. They insist, in effect, upon the necessity of provoking vomiting, and their statistics establish the fact that patients have no chance of cure except upon condition that they shall have rejected false membranes.

I recommend to you to read what Valleix has written upon this subject, in his *Guide du Médecin Practicien*, and you will see that he reaches the same conclusions as myself. Emetics, therefore, act mechanically; by freeing the air-passages from the membranous concretions which obstruct them, they render some service. We must not, however, exaggerate the effects of this medication. While I employ it always in the hope of obtaining from it the effects that may rightfully be expected, I know also that those effects will be momentary. I know that diphtheria is a disease in which the phlegmasia which has caused the formation of false membranes will last for a limited time; that it will persist after the expulsion of the products which have been once secreted, and will be secreted again. Consequently, if by resuming the same means, if by procuring the expulsion of the false membranes as soon as they are formed, I prevent the approach of death by asphyxia, although I may not cure the patient directly, I at least employ a useful treatment, since by prolonging the days of the patient, while the diphtheritic phlegmasia runs its course, a time will come when this phlegmasia will pass away of itself, and recovery will be the result.

The choice of emetics is moreover by no means an indifferent matter. Tartar-emetic, so extolled by some, seems to me the most dangerous of all. Very justly has Dr. Millard, in his excellent thesis upon tracheotomy, insisted upon its disadvantages. This emetic, in effect, often produces serious accidents, rebellious vomitings, choleriform diarrhœas; it plunges the patient into a condition of extreme prostration, and often hastens the fatal result. Experience at the present time has sufficiently shown the dangers which I point out. The sulphate of copper, which does not deserve the blame it has incurred, is the means to which I have most frequently had recourse, because by administering it according to my method, that is to say, in fractional doses, we are less likely to pass beyond the goal which we wish to reach.

But whatever may be the utility, under certain circumstances, of the emetic medication, we do not accord to it too great confidence. After a very long practice, after having seen a great number of persons, both children and adults, attacked with diphtheritic anginæ and croup, I can certify that the failures have greatly surpassed the few successes of which I have been a witness. Even when, after having given emetics, you shall have obtained a noteworthy amelioration in the accidents which you wish to combat, never forget that these accidents will make their appearance anew; often, in a very short space of time, the difficulty of breathing, the attacks of suffocation which you have checked, will reappear, because new false membranes will have been secreted. If a second time you are so fortunate as to provoke their expulsion, a third time the same means will fail you, and then take care lest, by having too often excited nausea, you may have thrown the patient into such a state of debility that he may no longer have sufficient strength to struggle against the disease, when it shall become necessary for you to resort to tracheotomy.

Graves extolled the good effects of the *revulsive medication* in croup, but his observations evidently refer to cases of stridulous laryngitis. The method lauded by the eminent clinicist of Dublin is, indeed, of great utility in false croup; I have already set it forth to you when speaking of the complications of measles; I shall return to it again when we come to speak of false croup, and I will then tell you that blisters also in those circumstances have their utility, although their action may be milder than that of the warm water employed by Graves.

But when we find ourselves in the presence of true croup, when we have to do with laryngeal diphtheria, *blisters* are not only useless, but their application is also too often the source of accidents of the greatest severity. Let us only think of it for one moment, and we will readily understand how absurd it is—the expression is not too harsh—to hope for anything from blisters in this affection. Let us imagine the false membrane lining the larynx, and that is generally the condition in which it is found, for no one would ever think of applying the cantharidian plaster before there is extinction of the voice, oppression, and paroxysmal suffocation; let us imagine, therefore, the false membrane existing in the larynx, it is no longer a question then of contending against the phlegmasia which has been the cause of these membranous secretions, for we have to do with a foreign body obstructing the passage of the air in the respiratory tubes; the false membrane is nothing else. What can we pretend to do with revulsives, with blisters, whose action is essentially dynamic, against a lesion entirely mechanical?

It would be of as much avail to apply them to the neck of a child suffocated by a bean which had passed into the trachea. Assuredly you would consider as insensate the conduct of a surgeon who would thus act in such a case, and yet this surgeon would not be doing otherwise than does a physician when he hopes to cure croup by means of cantharidian revulsives; there is this enormous difference however, that in the first case, if the treatment is useless it will at least do no harm, while in the second case, the resulting effects may have the most terrible consequences. I must insist upon this point.

I have told you, gentlemen, in detailing the history of diphtheria, that a wound, that the smallest solution of continuity of the integuments, may be the seat of new manifestations of the disease in an individual attacked with membranous angina. I have told you that it was only necessary that there should be in a family a child affected by croup, or pseudo-membranous sore throat, for the diphtheria to be communicated to others up to that time in good health, but who had upon some part or other of the body a sore, which afforded an entrance to the contagion. You will see, indeed, in the case of children to whose arms blisters may have been applied in order to combat catarrhal affections, as is often done, whether the physicians have ordered it or not, you will see these blisters becoming covered over with false membranes when these children are in the midst of the diphtheritic contagion. Then, as I have taken care to point out to you, the membranous affection becomes extended beyond the limits of the denuded surfaces. I have cited several instances in which, as in that reported by Samuel Bard, the diphtheritic affection developed upon a blistered spot, and gradually increasing, covered a great extent, and occasioned fatal accidents. If these accidents occur on account of a sore in the case of those who have not yet been brought under the dominion of the diphtheritic diathesis, for still stronger reasons, will there be cause to dread them in the case of those persons who may have already given manifestations of it. I have related to you the case, among several others, of the young man who, at the moment at which he was recovering from croup, was carried off ten days later by cutaneous diphtheria, which developed itself upon a blister that had been placed on the forepart of his neck, and which, progressively spreading itself, had finally entirely covered over his breast as with a huge plaster of false membranes. It matters little, moreover, in what part this denuded surface may be; whether you place the blister on the nape of the neck, whether you apply it to the anterior portion of the neck, or on the forepart of the breast; wherever it exists this denuded surface may be invaded by the pellicular affection, and become the cause of a complication against which you will sometimes have great difficulty in contending. During ten, twelve, fifteen days, and even more, you may have combated it by means of the most energetic cauterizations, you may believe you have mastered it, when there will manifest themselves the symptoms of a general intoxication, of that malignant diphtheria to which your patient will succumb, do what you will. I am willing even to admit that death will not come in this way; but from the very reason of the extension which the diphtheritic inflammation may have given to the sores which it has attacked, the sores will become, after the cure of the principal disease, the seat of vast suppurations, which may kill the patients by exhausting them by hectic fever. I beg you, gentlemen, and all true practitioners agree upon this point, do not, under any pretext whatever, apply blisters to patients attacked with membranous angina or with croup, and whenever you find them applied, hasten to use the most energetic efforts to modify these sores by means of topical remedies.

Topical medication, in spite of the opposition which it meets with at the present day, is the medication *par excellence* in the treatment of diphtheria; it is equally indicated for this disease as it is for malignant pustule, and I have already insisted upon this capital point. Independently of the mercurial preparations of the red precipitate, which I have sometimes employed, and of the protochloride of mercury, of which I have spoken as modifiers of the surfaces invaded by the pellicular affection; independently of these mercurial preparations, and better than they, the astringents and caustics are the agents of this medication. From time immemorial it was the first employed. As M. Bretonneau has judiciously observed, it is to the period in which the disease was known under the name of *Egyptian disease* that we have to go back also for the title of *Egyptian onguent*, a solution of verdigris in honey (*mel cupratum*) which was given to a preparation eminently anti-diphtheritic. Read the chapter of Aretus: *De curatione pestilentium in faucibus morborum*, and you will see that he recommended not only the application to the parts of lotions made of acrid medicaments, *(illitiones acriorum medicamentorum faciendæ sunt,)* but also to attack the disease not exactly with fire, the application of which he regarded as a difficult thing, but with medicaments similar to fire. *Porrò igne vitium adurere, cum in superiori parte sit imprudentis esse propter isthmum judico. Sed medicamentis igni similibus quo depastio coerceatur utendum præcipio.* He prescribed alum incorporated with honey, galls, the dried flower of the pomegranate-tree mixed with mead and calamine; he insufflated these substances also into the lower part of the throat with a reed.

You see, gentlemen, that the means we employ at the present day are far from constituting a new mode of treatment for diphtheritic anginæ. It is a cause for surprise that this powerful medication of Aretus has remained so long a time forgotten. In the 17th and 18th centuries, when these diseases of the throat reappeared under epidemic forms, when the strangulating disease, the *Egyptian disease*, carried off very numerous victims, these remedies were forgotten. M. Bretonneau himself, who at the time that he published his *Treatise upon Diphtheria* knew better than any one what Aretus had written about alum, had but little faith in its utility, and neglected to make use of it. It was only at a later period, and upon the following occasion, that he began to repose some confidence in it.

I told him that during the epidemic which I was appointed to examine into in 1828, in the departments forming ancient Sologne, I had had occasion to observe the efficacy of this medicament. I had been informed that in the commune of Marcilly, in Villette, where at first there had died sixty-six persons out of six hundred inhabitants, this frightful mortality had suddenly diminished, and that the scourge during two or three months previous had made very few victims. In order to learn the reason of this happy change, I directed my steps into that region, and having thoroughly interrogated the parish priest concerning everything that had occurred there relative to the matter, I learned that the *white sore throat* (that was the name by which it was called) had ceased to be so severe from the time that the patients had been cared for by a landlady (*aubergiste*) of the country, who had already acquired a great reputation for the cure of diseases of the eyes. The priest was ignorant, however, of this woman's secret. I then asked the woman herself, but she refused to tell me, merely sending me to two patients whom she was treating at that time. One of them was a young lad, a miller's boy, thirteen years and a half old; I went to see him, and discovered in his case the existence of false membranes covering the uvula and tonsils. Three persons had died some time before in the family of the patient; he had been under treatment for five days, and he showed me the gargle which he used, and which was also injected into his throat by means of a syringe. It was a mixture of alum mingled with vinegar and water. When I left the country the young man was perfectly well. I collected several facts analogous to this, and knowing the secret of the landlady, I told her what I knew; then she confessed to me that she really did make use of alum, and that she had been led to employ it against the white sore throat, because she had seen it cure swine of canker of the mouth, a disease characterized by white pellicles developing themselves upon the gums, and even in the throat, and consequently, presenting with diphtheria a certain analogy which had not escaped the good woman. I communicated my documents and the facts which I had observed to the prefect of the department; this method of treatment was published and printed and sent to the different communes; at the same time I gave an account of what I had seen to M. Bretonneau, who from that time had recourse to alum, which is in fact employed at the present time by all physicians.

There is another medicament indicated in the passage of Aretus, which you see me make use of for all our patients attacked with membranous angina; this is *tannin.* Aretus does not, it is true, make textual mention of tannin, which was not known in his time; but he speaks of galls, the powder of which he prescribed in insufflations and in collutories. Now galls and tannin are the same thing, since the latter is the active principle of the former. Insufflation, washes, gargles of alum and of tannin, are, in effect, powerful topical agents, which may render great service in the treatment of diphtheritic sore throats. Permit me to remind you in what manner we employ it.

We follow the method of Aretus, without any change. Alum in powder is carried as far as the bottom of the pharynx, by insufflating it by means of a pipe. A stick of elder, out of which the pith has been taken, and in default of this, a tube of rather thick paper, will answer the purpose. The quantity of powder is a matter of small moment, provided only that this quantity is considerable; one gramme, two grammes, and over. It is only indispensable, in order that the thing may be properly done, to press down the tongue very vigorously; and this operation, so trifling in appearance, nevertheless demands that we should dwell upon it for a moment. It appears, indeed, an easy thing to press down the tongue and to examine the throat of a child, and yet I am not afraid to say there are few persons who know how to go about this operation and examination, to which the little patients oppose a great resistance. By observing the precautions which I am about to point out to you, it is nevertheless easier to examine the throat of a child than that of an adult, against whose will we could not strive, while we may succeed with the former. It is sufficient to show him at first that you are his master, and when you have made him see that his resistance is useless, he will finally yield. For that purpose you will make him sit down on the knees of an aid, who will hold him firmly; a second person should be charged with the duty of keeping his head steady. When the child struggles and cries, you will take advantage of the moment when he opens his mouth, to introduce the handle of a spoon, and to carry it far down even to the base of the tongue. At this moment the mouth will be opened still wider, the child being seized with a desire to vomit, and you will see perfectly the bottom of the throat; but if you introduce the spoon only half way the child will take it between his teeth, and you will have the greatest difficulty in carrying it further down. A single operation of this nature will often suffice, so that thereafter the child, understanding that he has to do with one stronger than himself, will readily submit to new examinations. By acting thus you can easily insufflate alum powder, or carry a brush dipped in collutories, in which this salt is incorporated with honey. It is a matter of small consequence, I repeat, if the quantity of alum is considerable; even if the patient swallows a little of it, no harm will be done. These insufflations are to be repeated four, five, six, eight, and ten times during the twenty-four hours, and it is necessary that they should be frequently repeated in the beginning of the disease.

In order that the medication may be still more powerful, we can alternate the insufflations of alum powder with those of tannin; the latter in a dose of from forty to fifty centigrammes. This is in all respects the therapeutics of Aretus, renewed by Dr. Loiseau, of Montmartre.

Latterly we have sometimes, in the case of adults, who more readily submit to this operation, supplied the place of the insufflations of tannin by *inhalations* of water charged with a strong solution of this substance, and we make use of the *pulverizing apparatus* manufactured according to the invention of Dr. Sales-Girons. You are well aware, gentlemen, that this physician, struck by the fact that a vapor of mineral water contained only a little or none at all of its saline mineral principles, conceived the idea of substituting, in place of inspirations of vapor, inhalations made of this mineral water, so to speak, pulverized. This is not the place to speak to you of the means which he has used to reach his aim. I will merely remind you that the manufacturers of surgical instruments have constructed for this purpose a portable apparatus, easily handled at the bedside, and which you have daily seen used in our wards.

The astringent medication is, in my opinion, and in the opinion of many others, so efficacious in the treatment of membranous angina, that if we could always depend upon the manner in which our prescriptions would be executed, I, for my part, would less frequently employ catheters and caustics, to which you now see we have recourse.

The use of *catheters* and *caustics* is not a new thing in the disease which we are considering, though some persons have incorrectly believed that this method of treatment originated with M. Bretonneau; he has never thought of claiming for himself the glory of having invented it. In the last century, physicians had already extolled cauterization with the spirit of salt, that is to say, chlorohydric acid, in the treatment of what they called gangrenous sore throats. Marteau de Grandvilliers said that he had great success with it during the epidemics of which he published the reports in 1759 and 1768; and Van Swieten speaks in like manner of collutories with the spirit of salt, in several passages of his Commentaries upon the Aphorisms of Boerhaave.

Chlorohydric acid is, in truth, one of the most energetic topical remedies which we have at our disposal to combat pseudo-membranous angina. We can, without having anything to fear from it, employ it smoking, pure, absolutely pure, and repeat the cauterization three or four times during the course of the twenty-four hours. In modifying the diseased surfaces it has this advantage over sulphuric and nitric acids, that its action does not extend more profoundly than does that of the nitrate of silver. It is attended, however, with a certain inconvenience which I must point out to you, because in some cases it may lead the physician into error. When we touch with chlorohydric acid a mucous membrane not covered with false membranes, almost immediately after the cauterization we see a white spot appear, which presents all the features of a diphtheritic membrane. This plastic exudation is analogous to that produced by cantharadine and ammoniac, and it is not always easy to distinguish that which belongs to the action of the medicament from the morbid product peculiar to diphtheria; in such manner, indeed, that not knowing whether or not the affection is cured, we are disposed to continue the treatment even when it is useless. To avoid this disagreeable accompaniment, the better course to pursue is to wait after we have cauterized the parts three or four times during the first days, and to substitute in the place of the caustic, insufflations of alum and of tannin. At the end of twenty-four or thirty-six hours the white marks produced by the acids will have disappeared, and we can clearly see what takes place.

The *nitrate of silver*, introduced into common use by M. Bretonneau some thirty years ago, has been more extensively employed than chlorohydric acid. This is readily understood, however; for, on the one hand, there is no practitioner who has not in his pocket-case a porte caustic, while we do not always have the acid ready at hand; on the other hand, the porte caustic is more easily manipulated than the other. But nitrate of silver is attended by the same disadvantages as the spirit of salt, and presents them in a still higher degree, especially when we make use of the stick caustic. In this case, indeed, we produce upon the parts touched the formation of a slight eschar, a sort of white membrane which continues for a day or two, and if the cauterization is often repeated it becomes very difficult to avoid the error which I have just now mentioned. Notwithstanding I had been a long time aware of the fact, I myself very recently fell into this very error. A person came from Chantilly to consult me about his sore throat. I found one side of the uvula and one of his tonsils entirely covered with white false membranes; the other tonsil presented also a spot of the same appearance. The patient did not tell me what had been done for him by his physician, and even asserted that he had not submitted to any treatment at all. He returned home, bearing a letter which I addressed to my honorable confrère at Chantilly, whose attention I called to the thick false membranes which I had seen; I added, it is true, that these false membranes had appeared to me more brilliantly white than usual, but that, as they were broad, thick, and extensive, I feared diphtheria. I finished by giving my opinion as to the treatment to be prescribed. Dr. D. answered me that these pseudo-membranous concretions were the result of cauterizations with nitrate of silver, which he had used for the purpose of checking an inflammatory angina, in respect to which the patient had consulted him.

In solution, nitrate of silver has none of these disadvantages. If it causes a whitish film, it is only a superficial mark, easily distinguished from the diphtheritic exudation. I usually employ a strong solution of nitrate of silver, one in the proportion of one part to three parts of water. Besides the advantage just named, which it presents over the stick lunar caustic, it has still another, which I will explain to you. Unless made by means of an instrument curved at the end, in such manner as to carry the caustic behind the veil and the pillars of the veil of the palate, and to penetrate even to the epiglottis, cauterization with the stick fastened in the porte-crayon of the pocket-cases cannot reach all the parts, as does the solution. By filling with the solution a sponge placed at the end of a piece of curved whalebone, we can touch the superior part of the larynx, the lower part of the pharynx, and can enter as far as the eustachian tube, and even to the posterior opening of the nasal fossæ, as we are often obliged to do. When the disease is confined to the tonsils, or to parts open to view, the stick caustic, or a bit of lint dipped in the solution, will suffice; but as frequently this is not the case, or at least as there is reason to fear that the diphtheria may have invaded the lower parts, cauterization with the sponge is preferable. It is, therefore, necessary to take a piece of whalebone having a certain curve; it should be round and smooth, and should have great rigidity, or otherwise you may not be able to overcome the obstacles which the resistance of your patients and the contraction of the pharynx will oppose to your efforts. A ramrod of a gun or a pistol, or in default of that, a piece of whalebone from an umbrella, will answer the purpose; you can give it the proper roundness and curvature after having plunged it for a moment in boiling water, or held it a few seconds in the flame of a candle, in order to make it more flexible, and more readily handled; and then, when you have restored its rigidity by dipping it in cold water, it will preserve the form and the curve which you desired to give it. You must then arm its extremity with a very small piece of sponge, which you can fasten with thread, or, better still, with good sealing-wax. In order to cauterize properly, it is necessary to press well down the tongue of the patient, and to hold it firmly pressed down, either with a spatula, or with the handle of a pewter spoon, bent almost at a right angle. You must carry this spatula even to the insertion of the base of the tongue, and draw it forward as much as possible. These details are important; by neglecting them, we are liable not only not to cauterize the parts affected, but also to cauterize uselessly those which are not affected; by taking, on the other hand, all the precautions upon which I do not hesitate to insist, nothing is so simple as to operate upon the pharynx, and to go even to the superior orifice of the larynx—which must always be done when the patient begins to cough and to offer signs of diphtheritic inflammation of the glottis; nothing is so easy as to cauterize even to the posterior orifice of the nasal fossæ. The sponge should not be too full of the fluid, for then the caustic liquid will hurt the tongue and blacken the teeth. If this does not present serious objections, still this cauterization improper and too extensive is painful, and consequently, should be avoided: it would, moreover, tend to create new obstacles in the operations which you may have to make at a later period; for the patients, if they are children, will be, of course, still more rebellious. Another disadvantage of nitrate of silver is, that it soils the linen of patients with an indelible stain when they spit, as they always do after cauterization, or when they vomit, which often occurs. This is, to be sure, a consideration in appearance extra-scientific, but one which, in practice, is not without importance.

The *sulphate of copper*, whose action is as energetic as that of the nitrate of silver, is attended with none of these disadvantages. Upon the parts which it touches it leaves no mark, and therefore you see that I adopt it in preference, under the form of the saturated solution, which I employ as the solution of silver.

The *actual cautery* has also been applied by a certain number of physicians, and a long time ago. I was myself a witness of this method of practice. It was in 1828, during the epidemic at Sologne, which I have mentioned to you: an old physician of Romorantin, Dr. Bousergent, cauterized the throat of children with a red-hot iron, and for that purpose he made use of the punch with which the wooden shoemakers hollowed out their shoes; he heated one of its ends, and having wrapped the other in wet tow, or having inclosed it between two bits of wood, which served as a handle, he carried his actual cautery to the tonsils affected with diphtheria. I could not help observing to Dr. Bousergent that this application of red-hot iron must be attended with some danger; that he ran the risk, by reason of the intractability of the patients, of touching parts which ought to be respected, and of producing deep and extensive eschars in the mouth, upon the cheeks or lips. To this objection my friend responded, that there was nothing to fear, and that the dread of being burned on the part of the patients themselves caused them to open the mouth wide enough for the operator to act with perfect facility. I witnessed, indeed, some successful results, but these facts were not sufficient to attach me to this method, which I consider too brutal; and, notwithstanding the opinion of my brother doctor, very dangerous in its application, in so far at least as respects membranous angina; nor have the recent labors of Dr. Valentine as yet reconciled me to this method. When the treatment of cutaneous, anal or vulvar diphtheria is under consideration, when we have to do with gingival or buccal stomatitis, matters are entirely different; in these cases, the actual cautery seems to me to be really useful, and you have seen me quite frequently make use of it.

Catheters and *caustics*, insufflations of alum powder and of tannin, cauterizations with the solution of nitrate of silver, or sulphate of copper, or with chlorohydric acid, are also applicable to the treatment of laryngeal diphtheria.

A child begins to have the croupal cough; he has not yet the croup. The pseudo-membranous exudations are not yet fully formed in the larynx; there is only an incipient diphtheritic inflammation, but before twenty-four or forty-eight hours shall have passed away, false membranes will exist; it becomes necessary from the very beginning to prevent their production, by modifying the inflammation which will give birth to them, by means of catheterism and caustics, carried to the superior orifice of the larynx, and into the larynx itself.

For this purpose, M. Bretonneau and myself adopted the following process. We made use of a tube, which we filled with alum-powder, and having introduced this instrument into the lower part of the throat of the patient, after having properly depressed his tongue, we made insufflations, which we repeated again and again. In this manner, the patient would at length be obliged to make deep inspirations, which would draw into the respiratory apparatus a certain portion of the medicament. In order to cauterize with chlorohydric acid, with nitrate of silver and sulphate of copper, it is necessary to carry behind the base of the tongue, and even behind the epiglottis, a sponge wet with the caustic; when it is once in contact with the aryteno-epiglottic ligaments, upon which it must be pressed in such manner as to express a little of the liquid which it contains, this sponge will provoke convulsive efforts of inspiration, which will cause the medicinal agents to enter into the larynx.

It cannot be denied that these means are very imperfect and very uncertain in their results. *Inhalations of the vapor of chlorohydric acid*, at one time employed by M. Bretonneau, are not more easily used; they are attended, besides, with the serious disadvantage of having excited, under certain circumstances, violent inflammation of the bronchii, and even peri pneumonia, and therefore it has been generally abandoned.

Catheterism of the larynx, by means of which we penetrate into this organ, and even into the trachea, is a more efficacious method. I do not speak of catheterism operated according to the process of Dr. Green, (of New York,) by means of a long whalebone armed with a sponge.

The methods devised during a few years past by Dr. Loiseau, (of Montmartre,) for the treatment of croup, are much more certain. Although, in 1839, Professor Dieffenbach had already applied them at the Charity Hospital in Berlin, Dr. Loiseau is none the less entitled to the honor of the invention, for when the idea occurred to him he was absolutely ignorant of what the German physician had done. Dr. Loiseau arms the first two joints of the forefinger of the left hand with a curved metallic ring, which leaves free the nail-joint and the last articulation. Thus protected, the finger is carried as deeply as possible into the back part of the throat; its extremity raises the epiglottis. Nothing is easier, then, than to carry an instrument into the larynx. Dr. Loiseau sometimes makes use of a curved stick, having a sort of cup at one extremity, in which is placed the solid nitrate of silver; sometimes a hollow sound similar to the laryngeal insufflater of Chaussier, curved, pierced with two holes or eyes, cylindrical and broad at its upper extremity, and diminishing in size towards its curved end, which is suddenly flattened. We can then operate upon the affected parts, either by introducing into the sound a piece of whalebone, at the end of which is fastened a small sponge filled with the liquid, which is expressed through the openings of the catheter, or by injecting directly into this instrument a caustic solution, as some of you will, perhaps, remember that you saw done in the case of a little girl four years old, a report of which was published in the *Gazette des Hôpitaux*, (31st October, 1857.)

When we think with what facility attacks of suffocation supervene, whenever a foreign body even touches the superior orifice of the larynx, we may well be terrified at the idea of introducing an instrument into its interior; we may well dread this suffocation, and still more, fear that it may be produced by the liquids injected into the air-passages. And yet the only moment of the operation which is painful for the patient is that when the finger seizes upon and raises the epiglottis. As for the catheterism and the injection of even a very considerable quantity of caustic liquid, they are perfectly well endured. These facts may doubtless be explained in this manner. In respect to the catheterism, it is no longer a question of a foreign body which tickles and excites the opening of the larynx, but of a foreign body which roughly traverses it, and rapidly forces the passage. Now if we understand that the sentinels—if I may be allowed to use the figure—placed at the entrance of the air-tube, habitually prohibit the approach of the foreign body which may have accidentally penetrated to it, we can also understand that, the passage being once forced, the sentinels can no longer render any aid, and that then suffocation can take place only so far as the calibre of the respiratory passages shall be obstructed. As to the liquids injected, experiments upon animals have taught us how tolerant the trachea is, and that caustic injections do not often provoke either suffocation, or even attacks of coughing.

We may also, as does Dr. Green, but more surely than he, by directing the instrument along the finger which keeps open the orifice of the larynx, according to the process of Dr. Loiseau, introduce directly a somewhat stiff piece of whalebone, armed with a fine sponge filled with the caustic liquid, and with this apparatus sponge out the larynx, in order to free it from false membranes. When these false membranes resist, Dr. Loiseau detaches them by means of flat and curved pincers.

These methods are certainly very ingenious, and Dr. Loiseau, in submitting them to the judgment of the Academy, (Bulletin of the Imperial Academy of Medicine, 1857, t. xxii., p. 1,139,) has cited quite a large number of cases in which he had obtained marvelous results. On different occasions I was a witness of several successful operations, and among others, in the case of a child, a patient of my friend, Dr. Gros, who communicated the case to the Medical Society of the Hospitals, on the 28th of July, 1858; it was reproduced in the *Union Médicale*, on the 14th of September in the same year. Personally I have but once only had recourse to catheterism; in the case of the little girl of whom I have just now spoken to you. In that case you have been able to judge of the harmlessness of the operation, and of the ease with which it is performed.

The facts presented by Dr. Loiseau are well worthy of consideration, although perhaps the author has in some respects exaggerated their importance; these cauterizations might, under certain circumstances, render important service.

It remains for me to speak to you, gentlemen, of the *perchloride of iron*, which has been put forward latterly as the specific remedy for diphtheria. Although our experience does not yet seem to us altogether sufficient to entitle us to pronounce upon the degree of utility offered by this medicament, still the cases in which we have employed it have been so numerous that I do not fear to deny to the perchloride of iron the virtues which some have desired to claim for it. It is nevertheless indisputable that it has rendered certain real services, as well in our hands as in the hands of the honorable physicians who in the first instance lauded its virtues. You have seen me apply it as a caustic agent, for the purpose of modifying surfaces covered with diphtheritic exudations; in such cases we made use of the concentrated solution. You have also seen me give it internally, in a dose of from four to ten grammes, in a potion to be taken by the patient during the twenty-four hours. But its action is perhaps no more special than that of other ferruginous compounds, which, like it, are indicated in the general treatment of the disease. Its extreme solubility, however, gives it a certain advantage over the others.

I have insisted, gentlemen, upon the uselessness and the dangers of antiphlogistics, which, for my own part, I have absolutely proscribed in the treatment of diphtheria. In passing in review various other medications, I have endeavored to show you that mercurials and alkalines—in so far as they are alterative remedies—present more disadvantages than advantages. I have also told you that certain medicaments, such as the sulphate of potash and *polygala senega*, which had for a time been supposed to possess anti-diphtheritic properties, had justly fallen into oblivion. I have laid peculiar stress upon the subject of blisters in order to beg of you never to use them, this method of treatment being the most deplorable, the most perilous of all. I have finally reached this conclusion: that the topical medication, by means of astringents, catheters and caustics, was, as I have been taught by a long experience, the medication *par excellence* for diphtheritic affections; but I have not pretended that with it alone we could overcome the disease.

General treatment should play in this disease a leading part. This treatment should be essentially tonic and reparative, as in all diseases in which the forces of the economy seem to be primarily disturbed and depressed. *Nutritious diet* occupies the front rank in this treatment, and the more severe the disease the greater is the necessity of nourishing the patients. One of the most alarming signs for the prognosis is lack of appetite and disgust for every sort of nourishment. You must endeavor to overcome this in every possible way; and to accomplish it, I do not hesitate to proceed sometimes, with children, even to threats. So long as the appetite continues good the chances of cure are great. The choice of food is, however, in no respect invariable. We are often obliged to satisfy in certain individuals the strangest caprices of taste. When in pseudo-membranous angina there exist pain and difficulty in swallowing, I give semi-solid food, thick soups, puddings, chocolate, creams, soft-boiled eggs, &c., and as soon as I can, I come to a more reparative meat diet.

The pharmaceutical agents which I make use of are preparations of quinia and of iron. Most generally I give to patients the yellow powder of cinchona, in a dose of from one to two grammes in a cup of black coffee, in such a manner as to conceal the bitterness of the medicine, and to facilitate its reception into the system. For those to whom this preparation is repugnant, and when I wish to obtain a more prompt action, I substitute for the powder of cinchona the sulphate of quinine, given in the same manner in coffee. I give also the wine and the syrup of cinchona.

In respect to the preparations of iron, I prefer those which are most soluble; the perchloride of iron, of which I have just now sopken, the syrup of the citrate or of the tartrate of iron.

EDITORIAL AND MISCELLANEOUS.

— The blight of civil war still rests upon our beloved land. No gleam of light as yet, alas! points to a speedy settlement of this heart-rending result of a most causeless suicidal rebellion. Indeed, as time passes on, the shadows are even deepening and lengthening; and sadness enough is brought to the heart of every one. One prediction, however, that has from the beginning been very frequently reiterated and generally believed, as to the terrible effect a Southern campaign must necessarily have upon the health of our soldiers, has, we are happy to say, proved entirely unfounded, during the summer months even. In fact, while the sanitary condition of the National army has been and is quite satisfactory, the Southern troops, against all calculations, suffer greatly from disease. This remarkable and unexpected difference must depend upon the great attention paid to military hospitals, camp hygiene, to the clothing, feeding, sheltering, care and comfort of each man on our side, and upon more means to carry out the requirements of the case; and is greatly due, no doubt, to the exertions of the Sanitary Commission.

We transfer the following from the *American Medical Times*, Sept. 21, 1861:

The Sanitary Commission continues to labor with great energy to extend sanitary reforms among the troops, and with great success. At a recent meeting it added to its force the following Assistant Secretaries: Drs. J. T. Newberry, J. H. Douglas, and J. Foster Jenkins. These are excellent appointments. Dr. Newberry is one of the members of the Commission. Dr. Douglas is well known to the profession as the able editor of the AMERICAN MEDICAL MONTHLY, of this city, and will bring to the discharge of his duties that knowledge of sanitary science, and that energy in the execution of the plans of the Commission, which are requisite to success. Dr. Jenkins, formerly of this city, but more recently a reputable practitioner at Yonkers, N. Y., enters the service thoroughly imbued with the spirit which should animate every agent of the Commission. The following distribution of duty of the Assistant Secretaries has been made:

To Dr. Newberry, the departments of Gen. Rosencranz, Gen. Fremont, and Gen. Anderson. Post-office address, Cleveland, Ohio. Dr. Newberry will establish hospital depots at Wheeling Va., (in charge of C. D. Griswold, M.D.,) at Cincinnati, (in charge of W. H. Mussey, M.D.,) and at Quincy, Illinois.

To Dr. Douglas, the columns under Gen. Banks and Gen. Dix. Post-office address, Baltimore, Md. Dr. Douglas will establish hospital depots at Baltimore and at Frederick City.

To Dr. Jenkins, the columns under the immediate command of Gen. McClellan and Gen. Wool, with hospital depots at Washington and Fortress Monroe. Post-office address, Washington, D. C.

Contributions of hospital stores may be made to either of the above depots, or the Woman's Central Relief Association, No. 10 Third Avenue, Cooper Union, New York.

Contributions of money may be made to the Treasurer, Geo. T. Strong, Esq., No. 68 Wall Street, New York.

— A subscriber has sent us the following reflections, suggested by our motto: *Non Progredi est Regredi.*

Although it may be vain in the desire as well as profitless in the result to endeavor to solve all the enigmas embraced in the medical science, still it is a laudable quality inherent in the human mind to grapple with questions which carry with them the characters of novelty or abstruseness, in order that, submitting them to the test of a minute and rigid analysis, it may haply deduce some hitherto unrecognized fact or principle which will not only amply recompense the intellectual labor expended upon it, but (which is of infinitely greater importance) may also effectually revolutionize universally received doctrines, and thus become the permanent basis of a system that is destined to survive as long as the science itself, or its usefulness to the physical necessities of the human race, is acknowledged. The discovery of the circulation of the blood may not have *directly* added to or diminished one jot from the brief span of mortal existence, yet the truth itself is eternal, and of inestimable value, fraught as it is with innumerable blessings to our race, by furnishing the physician a steady and unerring light while unraveling the complex and mysterious phenomena of disease; or guiding him in the choice and application of medicinal agents, by which fatal structural changes are prevented, and the disturbed physiological functions of the organism restored to a state of normal activity and equilibrium. The chimerical theories which reigned supreme to the time of Harvey, respecting the circulation, fled like frighted spirits before the first dawn of this established fact; and scientific men only marveled why such a truth so simple in its essence, so easy of demonstration, should have remained so long unsolved, or at least, so imperfectly sketched by a few antecedent writers, as to only render the obscurity which involved the subject the more palpable and embarrassing.

All problems, however difficult, become intelligible to the most ordinary capacity when elucidated by a master-mind; but, unfortunately, all men are not capable, or even willing to acknowledge the superiority of the teacher through whose instruction they have been enabled to soar, as it were, beyond the contracted limits of their own sphere—and either basely attempt to sully his hard-won laurels by calumny and misrepresentation, or attribute his success solely to the fortuitous operations of a blind and uncalculating chance. All men, according to such critics, have an equally legitimate right to a full participation of the common gift of fame, and consequently, that it amounts to a species of arrogant presumption for any one to enjoy, or lay claim to, a larger share of celebrity than the most worthless drone encumbering the earth. It is such obstacles as these which frequently beset the honest investigator in the path of scientific research, and make him quaff of the bitter dregs of envy before he has even tasted of the tardy cup of well-merited approbation. All men, it is true, (and this is the proper version of the text,) have it in their power to prove useful, if not brilliant, in the several spheres allotted to them, should they only industriously cultivate and apply the talents wisely bestowed upon them in varying measure by the bountiful Creator. It is this reflection that often stimulates the thoughtful mind to extraordinary exertion, and causes it to surmount difficulties and achieve labors which it otherwise could never have accomplished. This is far preferable to assailing the fair reputation of successful competitors in the peaceful struggle, and building up an ephemeral notoriety upon baseless, visionary ruins.

The science of medicine furnishes an ample field for the accomodation and enterprise of all: with many of its regions untrodden and unexplored; teeming with riches and resources more remunerative and enduring than the whole collective wealth of the universe—of which all may participate and enjoy without fear of encroaching upon the possessions of others, or of eventually exhausting the general fund; and yet the laborers who enter it with the genial feelings of brethren, are more envious and intolerant of each other's success, than the most sordid miners grubbing in the ravines and mountains of a golden land. It would seem as though the very atmosphere they breathed within its sacred precincts blighted all the noble and generous impulses of their nature, and made them forget or disdain the glorious cause in which they had enlisted, and the common destiny which all should patiently, but heroically, fulfill.

One consolation, however, the party aggrieved may well derive from such degeneracy: it is, that while his assailants reap no lasting benefit from their merciless onslaughts, *his* reputation remains not only materially intact, but becomes the more enviable and conspicuous from the severity of the ordeal through which it has passed. This fact should rightly shape the course of all physicians in their relation with their professional brethren, and make them from policy, if not from higher motives, attend punctually to the arduous task set before them, and allow others to follow the same useful and inoffensive tenor of their way. *Age quod agis* is a motto of divine excellence, and can *never* be too highly appreciated in theory, or too faithfully carried out in practice.

To the unprejudiced and serious mind of the observer, while quietly scanning the existing state of medical science, much seems to have been achieved by the persevering industry and genius of cotemporaries and predecessors; much still remaining in an imperfect state of advancement; and much so obscure, so utterly undefined, as to chill the ardor of the most resolute and ambitious from approaching a labor so dreary in appearance, and so seemingly sterile in final results. But, then, he must consider that the whole field presented to his view offered at one time even a more dispiriting prospect; with here and there, perhaps, a lucid spot, which gleamed like an *oasis* in a vast desert, and which cheered the ancient pioneers of the art to tread more slippery ground, ascend more towering heights, and explore more hidden recesses. The knowledge derived from these attempts fortunately survived the men who achieved them, and descended as a precious inheritance to succeeding generations, who were thus enabled through the facilities it afforded, and according to the tact and energy they displayed, to accomplish much that had been left undone, and to trace out *new* labors for their followers. This order of things is truly providential; for were it otherwise, were knowledge to become extinct with each revolving period, man would inevitably be left to grope his way in mental darkness, and science would dwindle from a glorious reality into an evanescent dream.

In our own day we fully realize the immense advantages accruing from this *cumulative property* of knowledge; and, therefore, to be simply content with the ample riches bequeathed to us, without any effort on our own part to augment the general fund, would be practically to revert to that state of utter confusion, that epoch in the past, when all the sciences were comprised in one, and that one even in a condition embryonic. This would be exceedingly like the conduct of the man who buried his gold in the bowels of the earth, lest any should haply be lost by its legitimate use; and ought justly merit a graver condemnation than was even awarded the latter. Comparing the state of medical science as it existed all over the world some two or three centuries ago with its present flourishing condition, we should scarcely believe that thinking men could seriously entertain such absurd doctrines respecting the pathology of many diseases, and employ such extraordinary and fanciful remedies for their eradication as were then in vogue; and yet the contrast they afford may not be more striking and impressive than that which is destined to be furnished between our own knowledge and that of a few generations hence. What are to us mysteries at present shall, in all human probability, be to them matters as familiar as the simplest facts. We should, then, endeavor to make our age as illustrious as possible, that it may loom conspicuously in the horizon of the future, and be pointed to with delight and admiration by posterity, as forming a golden era in the history of the progress of medicine. B. K.

Notice to Publishers and Correspondents.—Quite a number of valuable communications received, as well as book reviews, have been placed on file, and will be published as soon as possible. In the mean time, we beg correspondents, publishers, and the senders of the different State Societies' Transactions to have patience with us.

THE AMERICAN

MEDICAL MONTHLY.

NOVEMBER, 1861.

ESSAYS, MONOGRAPHS, AND CASES.

Moral Insanity in Relation to Criminal Acts. By Dr. J. PARIGOT, Late Commissioner in Lunacy and Chief Physician of the Establishment of Gheel, Belgium; Honorary Professor of the University of Brussels; Member of several Academies and Learned Societies; Founder of a Private Asylum for Insane, conducted on the Belgian System of Free Air and Family Life, at Sing Sing, N. Y.

[An extract from the following paper was read, by permission, before the NEW YORK ACADEMY OF MEDICINE, Oct. 2nd, 1861. It was published in the Academy's Transactions, and will be discussed at length at its ensuing session, November 6th.—ED.]

Our desire being to investigate certain forensic difficulties bearing upon philosophical desiderata concerning volition, and wishing also to demonstrate the absolute necessity of a coexistence of physical with psychical signs to allow a determination of the real mental state of persons supposed to be insane, or simulating insanity, let us state at the outset what are the general principles upon which our opinions are founded.

The Divine law which regulates our intercourse with our fellow-creatures, and even with all nature, is given to us in two words of the Christian faith—*Love* and *Charity*. These words contain the substance and qualities of human justice.* Some philosophers have considered justice as a sort of mystical idea. We believe it to be simply a function of our conscience, the source of our rights and duties in the social order. Every man feels that his conscience has been made the seat of that eternal principle by which the universe is regulated. Therefore is it that justice is not only found in books of laws made by nations differing in religion, manners, and habits, but that it exists all the world over as a peculiar feeling of our soul, which enables man in every part of the globe to judge of the moral value of his acts.

Man is complete only when he is conscientious; and moral liberty being one of his attributes, it is clear that he is responsible when he has been able to choose between right and wrong; else liberty ought not to be said to be a power that enables us to act in spite of a known motive of action.

The general principles deducible from these views are, as to the insane:

1st. That love and charity require the exercise of the best means to cure their infirmity. ("They are unable to help themselves; we must actively do for them what we would desire to be done for us.")

2nd. That they ought never to be punished for offences or crimes committed under the influence of their malady; and as to the public:

3d. That society has a full right to employ the most effective means, consistent with civilization, to guard itself against crimes committed by insane persons.

If the possession of conscience distinguishes man in the whole world, it must nevertheless be observed that it is more by sensibility of feelings than by intellectual supremacy, that man understands what he has to do to live in society. Insanity, in this respect, begins only when a man is no longer fit to live completely free, because he has lost the *common sense* on which social order is founded. We have long ago, on several occasions, tried to establish the fact that the insane are very rarely completely bereft of that sensibility of feelings; and that a peculiar family life, under a certain amount of personal and social liberty, with proper therapeutical treatment, is the best and cheapest means for a prompt cure.† But we are ready to admit that when a lunatic retains moral notions, it is more by a sort of reflex action of an anterior and past state of his conscience, than by its actual capacity.

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* The ancient Greek philosophers of the school of Socrates, and especially that great man, have shown first, that justice was regulated by unwritten laws, of a moral nature, inspired by the Divinity.

† A very few maniacs and diastrephical subjects must be held in confinement on account of the aggressive form of their disease.

In previous writings, we have defined *human mind* to be the manifestation or outward evidence of the soul by organic and vital agency; thus mind is, and can only be understood to be, subject to the material conditions of life, though remaining the unique expression of our spiritual nature. We know nothing about the essence of things, and, of course, know nothing, therefore, of the intimate nature of life, disease, and insanity; but our definition explains why a mental affection is at the same time spiritual and corporeal, and accounts for the excellence or decadence of our mental faculties according to general health, age, and education.

Reason and morality are terms much employed in courts of justice; medically, they imply the liberty of conscience and the sanity of its material instruments, in so far, at least, as these must not be entirely unfit for their functions. Activity, though it is the principal faculty leading to our duties towards God and humanity, and implied in morality, we hear little spoken of even at this moment, (October, 1861,) when school education is the subject of public advertisements; when we read in public papers discussions of the problem for educators to solve, namely: how properly to combine the true training of the intellectual faculties, and that of the moral sensibilities and physical powers. Not a word is said about teaching *how to act* in the most important circumstances of *public and private life;* which tuition is, nevertheless, the fundamental and most serious part of education.

We will see further, that the pathology of volition has been also forgotten, and sometimes denied; much more, volition, although being the proper basis of *legal philosophy*, has been little studied even by jurists. For our purpose,

Morality may be defined as the quality of justification of a man's conduct; on the contrary, immorality points to a want of regard for justice, with a knowledge of offending against written and moral laws; and this quality constitutes the malice of the offender. Now, a lunatic has no regard for justice, because his conscience is absent or darkened; and his malice, when he has employed any, is but the reflection of his anterior state of mind. Illustrations of this are very common, and of easy observation among insane persons.

When there is no free will or possibility of choice in actions, we are able to pronounce that volition is vitiated in its essence, both corporeal and spiritual; human activity no longer exists, and disappears with conscience. Now, the doctrines of ancient and modern philosophers agree on the existence of an active principle of the soul. The Greeks admitted the *νους*, but recognized at the same time the *θυμος* as an active power of the mind; thus volition has always been known to be a peculiar mental function, perhaps the most important of all, as having its origin in the great principle of spontaneity and activity.* It is clear that, in order to obey the laws of God and society, we must be able to *choose* between what is called right and wrong; for it is insufficient to know and distinguish good from evil, if our will cannot sanction and execute our judgment.

The difference between the sensitive and intellectual powers on one side, and volition on the other, is easy to detect. We are not responsible for our thoughts, feelings, or sensations; the most absurd ideas may form themselves in our imagination; we are not answerable for them; they concern only our understanding, and are, therefore, *subjective;* we reject them, and that is all; but it is not the same regarding our acts, formed entirely under a process similar to that of our ideas, but not identical; we are forcibly responsible for their result, because there is an *objective* relation that binds us to the external world, and imposes upon us moral obligations. We are responsible, first, when we are conscious or in possession of ourselves, ("*sui compos;*") secondly, when the act is premeditated with a known and adequate motive, and when the result is foreseen; thirdly, when the act, after being judged good or bad, is resolved to be put in practice; and fourthly, when execution has accomplished the intended purpose.†

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* There is some diversity of opinion on this subject. A few writers think that volition is only the result of an *increased desire;* that understanding and feelings may come to a state of activity or desire. It is on that account, says Dr. Flemming, in his excellent work, (*Pathologie und Therapie der Psychosen*, 1859,) that physiology has renounced to search for a particular organ of volition, but has tried to find the instruments transmitting the influxes of the two cerebral principles to the excito-motor system. He continues, page 33 of the same work, by the remark, that this later question remains without answer, because it appears that volition will not be recognized as a faculty of the human mind.

A great number of German, French, and English, and especially our late friend the celebrated Guislain, are of a different opinion. Dr. Baillarger maintains that "La volonté peut, à l'état sain, se saisir de nos capacités et nous faire méditer, puis la volonté exaltée peut conduire à l'extase, ou bien la volonté peut laisser errer, ou vagabonder notre intelligence et nous conduire à la rêverie." —*Annales Médico-Psychologiques.*

The recent theory of Mr. Bain, who attributes all our actions originally to chance, the pleasant being continued, and the useless rejected, appears inadmissible to us.

† The axiom of jurisprudence, (*in lege cornelia,*) "consilium enim unius cujus-

Without entering into metaphysical explanation on the origin of a diseased volition, independent of an apparently sound judgment, it will be clear that if the mind be diseased by exaltation, depression, or perversion of one or more of our faculties, the effect of that disease is to deprive us of our liberty of action.

An insane person says sometimes, "*I know I did wrong, but could not help it, because at the moment I was obliged to do it.*" Now that shows that some* process of volition, quite independent of the understanding, has been vitiated. In general, it may be said that there exists a *chasm* or *void* between intelligence and volition when morbid.

We think that four divisions might include all criminal acts and offences committed by the insane:

1st. Cases in which the lunatic is under a general delusion.

2d. Cases in which the insane person is rational on every subject but on his particular delusion.

3d. Cases in which the insane is devoid of either thought, feeling, or will.

4th. Cases in which the lunatic possesses his intellect, and knows his diseased state of mind, even to a moment before a sudden attack, or after the fit is over, when he gives account of his infirmity.

In the course of this essay the second and fourth divisions only are to be spoken of.†

The momentary loss of reason, or intellectual error, short of duration, has little or no effect on the mind; but when error is protracted,

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que, non factum, puniendum est;—Dolus pro facto accipitur," "l'intention cet réputée pour le fait"—is not applicable here. An insane person has no will nor intention.

* Mr. Billod, in a memoir inserted in the 10th volume, page 23, of the Annales Médico-Psychologiques, gives the following analysis of volition:

"Trois ordres d'éléments constituent la volonté.

1er Ordre.—A, Génération de la volition;
B, Génération des motifs;
C, Délibération;
D, Conséquence de la délibération ou détermination;
E, Aperception ou connaissance de la volition.

2nd Ordre.—Vouloir (c'est à dire mettre en rapport le 1er avec le 3me ordre.)

3me Ordre.—Exécuter par telle ou telle faculté, par telle ou telle fonction.

† As to the first and third divisions, *maniacs* may, and very often do, act very improperly, in consequence of delusion, or sometimes of a too rapid succession of thoughts, that prevents them from knowing what they are about. *Demented* are generally perfect automatæ—just as if everybody else but themselves had the power to direct their acts.

it may in certain cases trouble and pervert the intellectual power, the will, and instincts. Even when error, mania, or folly are imitated a long time, (sometimes night and day for months, by criminals,) the same result may overtake the miserable feigner. In these cases, error and vice have a morbid and material influence on the brain and nervous system, altered moral and physical symptoms are brought to light, and at last, insanity will declare itself. The difficulty, here, is to ascertain the transient period. In order to determine it, we should know the organism of the brain, the laws of its phenomena, and how the brain becomes incapable of its mental functions. Medico-psychological science has answered, as nearly as it is possible, some of these difficult questions, or recognized the impossibility of penetrating the mysteries of nature. At all events, physicians have thought that the best solution could only be given by medical and moral investigation; but in the course of things, it was found that a very learned and respectable body of men, who make pure philosophy and law their special object of study, have interfered, assuming that they knew better how to solve metaphysical difficulties relating to judicial matters on insanity. Now, if the study of the human frame has something to do with insanity, (and it is pretty clear it has,) lawyers and pure philosophers ought to resign their pretensions; but they are unwilling to do so, because, in common with laymen generally, they think insanity to be more a moral infirmity than a corporeal disease. In courts, lawyers often find fault with physicians, and give them to understand that they do not know the meaning and bearing of laws. Certainly, in its abstract notion, law must be considered perfect, and obeyed until amended or abolished on account of its deficiencies; but physicians are bound to show in what these laws oppose natural facts; and this has been done since a few years. Laws on insanity were made when insufficient knowledge and theoretical notions did not permit legislators to master their subject; and now, it is said, with severity, but with truth, that some of these laws are unjust; that they lead to the grossest mistakes, if not to judicial crimes. In no country that we know of, are legal means of ascertaining insanity adapted to the actual state of science. It is painful to say, nevertheless our duty to state the fact, that, in spite of the efforts of learned and renowned physicians, unhappy lunatics have suffered the penalty of death; nothing could avail against the absurd prejudices of public opinion, and the cruel, and sometimes shameless, interference of the daily press, when "*human justice was pursuing its course.*"

Among a great number of false notions prevailing both in Europe and America, resulting partly from inappropriate laws, and partly from prejudice, ignorance, and want of practical familiarity with insanity, some are here noticed:

1st. That melancholy or lypemania, epilepsy, and diseased will, (diastrephia,) are not mentioned in any code of laws.

2d. The pretension of some courts that there should exist a *legal insanity*, to be determined without, or against, the opinion of physicians.

3d. The opinion held by jurists, that the mind, in its pure essence, is susceptible of a disease which the body need not share. (Some medical men entertain and support the same false notion.)

4th. That a dispossession of a faculty is no proof of insanity.

5th. That, notwithstanding an insane person committed a wrong act while laboring under the idea that he was redressing a supposed grievance or injury, or under the impression of obtaining some public or private benefit, he is liable to punishment.

6th. That a jury of laymen (not medical) should be allowed to decide the sanity or insanity of a person.

7th. That a jury of laymen is to decide whether a party had or had not a sufficient degree of reason to know that he was doing something wrong.

8th. That the presence of a delusion having no positive and clear connection with an alleged crime is no evidence of lunacy.

9th. That acts, considered in their nature, and their mode of execution, bear no character or sign of the existence of insanity.

10th. That eccentricity, imbecility, waywardness, are never signs of insanity.

11th. That monomania has no connection with mental disease.

12th. That monomania (if considered as a partial insanity) does not absolve the offender.

13th. That the state of insanity must be permanent to admit of irresponsibility.

14th. The terms employed in the French and Belgian codes of laws concerning the specification of insanity are defective, and insufficient in the actual state of science.*

15th. That moral insanity is not a mental disease.

16th. The neglect of physical symptoms in medical certificates for law purposes; want of appreciation of the necessity of their description (if they exist) in moral insanity and in simulation of a mental disease. (This error is common to jurists and medical men.)

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* Dr. De Castelnau, in his recent work, *Rémarques Physiologiques et Légales sur l'Interdiction*, has shown that the French law concerning the interdiction of civil rights is contrary both to civilization and equity.

We must confess there exists between medical men and lawyers a remarkable spirit of opposition; an infirmity which we should, perhaps, renounce first ourselves. Why it should be so, is difficult to say. But regarding the medical profession itself, we should also come to an understanding amongst ourselves, when there is some judicial and medical difficulty to solve, and never to enter the witness-box with a prejudiced mind in favor of the party who has called us in. Unhappily, men living by liberal professions are sometimes disposed, from motives of self-interest, to jealousy and mutual opposition; the effect of which, in courts of justice, must necessarily be, to throw distrust and ridicule on us. But what is worse for the administration of justice, is, that learned judges, ingenious barristers, and medical officers are very often at variance, because they do not admit the same definitions of terms, especially those of moral insanity. A confusion arises as well out of the different value given to words as out of the loose employment of general terms.

The consequences of such a state of things are often to be deplored; the jury not having understood the real state of the case, many judgments have been rendered for which the defendant, right or wrong, might as well have tossed up for the verdict.

One of the objects of the present paper is to try to dispel some obscurity concerning the *diagnosis of moral insanity*, including homicidal, suicidal, and impulsive mania and monomania, in which moral faculties are said to be affected.

What is the pathological meaning of moral insanity? Dr. Pritchard says that it is a disorder of which the symptoms are only displayed in the state of the feelings, affections, temper, and in the *habits and conduct* of the individual, or in the exercise of those mental faculties which are termed the *active* and moral power of the mind. This definition shows clearly that it principally concerns the faculty of *willing and choosing*. An eminent and celebrated American writer, Dr. Ray, adopts this definition; and Dr. Beck says, that besides the impulse to murder, there is also included an irresistible impulse to commit injury, or to do mischief of all kinds. Here, then, we have the full perversion of will and instincts well defined by writers whose authority is accepted everywhere. Drs. Bucknill and Tuke, in their excellent work on *Psychological Medicine*, certainly the best lately written in Europe, say, that the diagnosis of moral insanity is of the utmost importance, and often of the utmost difficulty ; but they think that physical symptoms, standing by themselves, are of little importance in the diagnosis. This we cannot admit, and will endeavor to prove the necessity of their presence both in moral insanity and in the simulation thereof, for the diagnosis of the real nature of the case.

Recent analysis of the functions of the mind has shown that its several operations can be divided into five faculties : 1st. Sensation. 2d. Moral feeling or emotion, (both of the receptive order.) 3d. Intellectual power. 4th. Volition, (the only faculty according to the signification of the word;) and 5th. The natural instincts. The three last belong to human activity ; it has been found, also, that any trouble, exaltation, depression, abolition, or perversion of any of our mental functions, when accompanied (as always is the case, more or less, evidently,) with physical symptoms, was sufficient as good evidence before courts of justice. In fact, the study of psychologico-forensic medicine and its progress are, in a certain measure, the result of several cases of moral insanity which attracted great notoriety. The perusal of those trials is of the greatest importance for our studies. It may be seen that a great number of the accused were in a very extraordinary mental condition; the *unity* of their mind being in a certain measure destroyed, since they were in a struggle, trying to collect their ideas and feelings in order to master wild impulses ! In almost each trial, in which moral insanity is the plea of defence, the prosecution maintains that such a disease does not exist, and brings forth examples and books to sustain this assertion: Lawyers not being able to distinguish the disease by its morbid symptoms, pretend that criminals are more or less *morally insane—id est*, wicked, dissolute, and perverted. On the other side, the defence has often resorted to this plea of insanity as a remaining chance of acquittal; some physicians, moved by a desire to wrest from the scaffold some prisoners that appeared to them more deprived of reason than malicious and wicked, have gone too far in their so-called philanthropic endeavor. The measure we propose, further on, with regard to medical reports on lunatics, would at once do away with such an autocratic power, against which the reaction of lawyers and courts is partly directed; but there are other causes of misunderstanding to be explained.

Some people understand by the word moral the opposite of physical; others rank moral insanity as the extreme of moral perversity; again, moral insanity is said to be an obliquity of mental perception as to the precise boundary of what is honest; some eminent writers speak of mental dynamics and of moral functions being solely affected. All these expressions may appear obscure, and at last the consequence of a want of precision in the diagnosis itself of these diseases has been, perhaps, the acquittal of a few offenders, but unhappily more often the condemnation and execution, as guilty criminals, of persons actually insane!

The fact of real insanity detected in acts and instincts, connected or not with other symptoms of mental disease, is admitted by all authors on psychological medicine. Unhappily, they have not insisted on its diagnosis by medical means, but have resorted to psychical symptoms generally; though they alluded sometimes, it is true, to pathological anatomy, when the state of that science permitted it. Now pathognomonic signs are not so difficult to discover as to have ever to be overlooked; we have had, in common with many physicians, occasions to trace them in numerous cases; and every medical officer connected with establishments for the insane recognizes the disease, whatever be the name under which it may be presented to him by persons who do not know its symptoms. I shall submit these pathognomonic signs.

I believe that there is no court in the world that has not had cases of moral insanity to try. What has happened? When physicians did venture to explain the special nature of those cases, they were almost each time mystified; scientific explanation was often quibbled, or dissected with metaphysical subtlety, but always resisted; and the *savant*, that tried to preach to a skeptical audience, was laughed at, if not rudely turned out of the forum. It may be read in Dr. Winslow's Journal of Psychological Medicine, that in a court of justice of England the late Lord Campbell said to three physicians, "*You may go home to your patients, and be more usefully employed there than you have been here!*" Another judge said to a physician, "*You might as well have staid at home and attended your patients!*" Another learned judge said, "*that his experience taught him there were very few cases of insanity in which any good came from the examination of medical witnesses!! their evidence sometimes adorned a case, and gave rise to very agreeable and interesting scientific discussions; but, after all, it had little or no weight with a jury!*" These curious opinions, given by learned judges, sitting on their benches of justice, confirm what we said about the pretensions of jurists on medical subjects; but it is to be hoped the time will come when such words will never more be heard falling from judges, for the honor of magistracy at least! And now, we regret that sometimes misunderstandings should exist between learned men, who, in the name of justice, come together to vindicate truth.

In spite of many discussions, held in medical societies and academies, doubts concerning the theory of moral insanity, for legal purposes, have not yet been resolved. The reason of it may lie in the fact that if people consider moral insanity from the point of view of its flagrant attacks and of its terrible results on society; if, at the same time, the criterion of knowing right from wrong has been employed as a test, then the logical inference is, that such acts must be repressed and their perpetrators punished. But, on the other side, if physical and psychical symptoms agree in demonstrating a disease of the brain, then it must be evident to courts, juries, and lawyers, that the offender, at the moment he committed crime, had no power to control his will, nor to choose right from wrong; that he was insane, because he could not dominate a morbid impulse, or that he was not able to adequate his actions to a real motive. As for us, we consider such an offender, under the influence of mental ailment, as insane as the most demented of his fellow-sufferers! Another reason, warring against the admission of its existence, may be the sort of causation producing moral insanity. Physical and vital causes are admitted, but in the case of a pure moral causation the link with physical change is not so easily detected.

Some very learned alienists, too, do not admit these explanations relating to moral insanity. Dr. Delasiauve, the distinguished physician of Bicêtre, says that monomania is a disease of the *sentimental* order, in which feelings, affections, and instincts are diseased. Now, here human volition is completely forgotten, although a great function of our conscience; and that mistake appears to be owing to the idea that volition yields more easily to feeling and emotion than to judgment, with which it should have less affinity.

The fact of the words *moral* and *insanity* being joined together, is also sometimes the cause of another mistake, since the act of an insane person may be immoral, and have no relation to his moral feelings or affections.

Aberration of feelings, emotions, and understanding is only incidental in cases of monomania with reference to mad acts; hence all the inconvenient names of *moral insanity*, *mania sine delirio*, *impulsive insanity*, *manie raisonnante*, *folie morale*, *Gemüthskrankheit*, and a variety of other appellations, as dipsomania, pyromania, kleptomania, etc., etc.

The confusion resulting from a pure psychological misunderstanding has had an influence on the opinion of jurists; they doubted first the real morbid state of the offender, and were unwilling to declare irresponsible the lunatics that were neither idiots, maniacs, nor demented. Unfortunately, Dr. Delasiauve in some measure supported their views on partial insanity; he said, in the conclusion of a memoir read before the celebrated Medico-Psychological Society of Paris, that "partial delirium and passions cannot be mistaken one for another, on account of the morbid line that separates them; that the insane are not responsible when delusion is evident; that also a presumed criminal is not responsible when his mono-delirium, although limited, is the motive of his crime; but when, on the contrary, the motive of the act *does not relate* to his peculiar delusion, that it remains to the judges to appreciate in what degree the influence of a *partial delusion* may diminish his responsibility." Here, then, the unity and solidarity of the mind is at stake, and the appreciation of soundness or unsoundness of a person is left to the arbitrary opinion of a judge—a man unacquainted with the numerous forms of insanity. Now, Esquirol said that the difference to be found in a mad-house and the world was only in a more accentuated shade of mad ideas, errors and passions, or propensities; metaphysical science finds also no line that separates reason from madness. The celebrated Lelut—member of the French Institute—says, in a memoir on insanity, "that in its beginning, insanity is still reason, as reason is already madness! That mental predisposition, which may be organical cause of insanity, consists (for the *moral or sentimental sphere*) in excessive irritability and sensibility; then appear strange desires, *perverted inclinations* and tendencies, bad passions, &c., (for the *intellectual sphere;*) they consist in want of attention, which leads to absence of mind, giving to the person an appearance of insensibility to external impressions; then a vicious association of feelings; ideas produce irregularity and discrepancies in words and phrases; or a too rapid association of ideas brings on confusion of speech, incoherence and unintelligible ellipses of thought; at last the symptoms of madness show themselves in false judgments, leading to wrong opinions, *determinations and acts* opposed to social order and morality." Well, if there is no psychical demarcation between reason and madness, why not have recourse to the physical one? It is admitted that it is necessary to compare the actual state of the individual to his previous state of mind and body, in order to appreciate the quantity or degree of existing differences; but if that person was a little eccentric, would not serious difficulties arise, unless physical symptoms could be ascertained? Every one may understand that, under such circumstances, lawyers tried to exclude physicians when cases could not be easily ascertained. "What," said an attorney for the crown, "a so-called monomaniac pleads guilty; he knows what he has done; he was aware of the penalty that his crime deserves; he knows even the law which forbids such an action, and now medical men come here pretending that such a man is not guilty!" The answer is this: If it is proved by the history of the case that there was no adequate motive; that the perpetrator of the crime was not in possession of his free-will; that an impulse forced him to the action; if anamnestic evidence is in his favor; if physical signs of insanity do exist—we say, that man being of unsound mind, no penal law can be applied to him; but it is your right to employ any means, consonant with civilization, that you judge to be the best to prevent any future accidents or hurt to anybody from his disease.*

Many jurists, and Dr. Delasiauve, ask these questions: What is free-will? Where are its limits? Can a man master his volition while he is in a violent passion? In similar cases, if he loses his free-will, is that man, according to the notions of alienists, accountable for his crime?

We are, we think, able decidedly to answer all such questions.

First, it is quite useless to search for an explanation of the *nature* of free-will in the condition that it has pleased God to place us on earth; moreover, this has nothing to do with insanity. We think human liberty or free-will may be considered as a moral power that man may acquire, by means of the principles laid down in his conscience, so as to free his mind of its material conditions; certainly that power is acquired *unequally*, and each of us does not reach the same degree of freedom. Some, under painful circumstances, remain subjects to necessity and its material laws; others, favored by education and special gifts, become more autonomic, that is, less subject to passivity, though never completely free. Thus free-will is never an absolute power, and has not the limits asked for; that is the reason why, according to circumstances, men, entirely sane in their mind, are more or less responsible before the laws; but again, this has nothing to do with insanity. Free-will cannot have any degree of perfection or imperfection in a madman, because his very state excludes the possibility of raising or entertaining that moral power. How can you require the application of a thing, the source of which is extinct? Why, it is that very material condition (in its worst failure) that deprives him of the means of enjoying liberty.

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* In our opinion, such a person, even cured, ought never to be left free from the control of somebody, able to judge of his mental state.

Now passion, hatred, anger, animal and selfish inclinations, &c., do not in the least destroy our liberty and volition. Instantaneous madness may happen, but it is very rare; in these cases latent symptoms have not been observed—that is all. Decision has always, in one form or another, preceded action, and our conscience has approved or rejected our motives; this is so true, that criminals have confessed to have been obliged to get themselves under the influence of liquor, to be enabled to carry out their plans. In this case drunkenness is no more an excuse than passion could be; and will never be considered as an excuse, because free-will was purposely diminished or oppressed!

In insanity free-will no longer exists, on account of a material condition of the mind, and therefore good sense requires that such a condition should be ascertained medically; the argument of lawyers, that some monomaniacs have more or less liberty, for which reason they may be compared with criminals, is the greatest possible error. Physicians have often been asked, with a certain victorious air, if they had studied criminality or observed criminals. Some, not knowing the bearing of the question, answered, perhaps, from fear to be entangled in some metaphysical net, *We have not!* but it might have been said that there exists no affinity whatever between criminals and the insane; the question is *to be or not to be*—is insanity present, or is it not? Certainly criminals are liable to become insane, and idiots and imbeciles are often met with in prisons, but as far as conscience is concerned they cannot be compared. Taking, for instance, the case that may have an apparent relation with crime—that in which a lunatic knows his disease and regrets what he has committed—the intermittent nature of his attacks, their symptoms, the torture it causes to the mind, are evident proofs of the pathological state of the nervous system; in a word, all phenomena of the mind correspond to physiological facts, and these must be necessarily either normal or pathological.

In order to obviate some of these difficulties, we have proposed to give a particular name to that type of mental diseases which manifests itself in acts and general conduct.* I have named *Diastrephia* any morbid alteration of human will and instinct; the word is taken from διαστρεφιω, to pervert, because perversion is the most common alteration of volition.

In our estimation, Diastrephia has the same relation to an act that delusion has to a thought; they are two equal terms, indicating the error and guile of an insane person; but the first is much more important and prejudicial than the second, which concerns only our individuality. There is an obvious reason why the terms of such a sort of algebraic equation cannot be inverted; it is, that logic and grammar do not permit to express the delusion or delirium of an act meaning its folly or insanity. Diastrephia is a special perversion, only applicable to volition and instincts. By this distinction authors on pathology are able to classify that sort of infirmity.

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* Des Diastrephies de la Volonté et des Instincts au point de vue Criminel. Par le Dr. J. Parigot, Professor à l'Université de Bruxelles, Médecin en Chef et Inspecteur de l'Establissement d'Aliénés à Gheel. Bruxelles, 1856.

From this point of view, insanity, considered in its true objective relation, furnishes us with a definition that meets better any form of insanity for forensic practice. It is no more to be said to be a total or partial deprivation of the power of reasoning and of distinguishing right from wrong, nor is the general character of insanity any longer an emotional trouble, as the celebrated Guislain called it; neither can it be said to be a disease of our perceptive faculties, with subsequent loss of judgment. All these phenomena are characteristics of certain orders of disease, but not applicable to all cases, and especially to those requiring forensic discussion. For law purposes, insanity might be defined *the loss of power of control either over one or more of our mental faculties, including especially the absence of free-will, demonstrated by moral and physiological symptoms.*

In a medical point of view, it is *an idiopathic or sympathetic disease of the brain, which interferes with the psychological and physiological functions of this organ.* From the stand point of administrative authority that has charge of preserving the peace and security of cities, towns, or villages, *insanity begins only when a patient endangers the community or his own life and property.**

We have not the slightest pretension to present a complete definition, since every one must fail to determine the nature of insanity. It has been tried to essentialize disease, but we must content ourselves to see the mean point where material and spiritual phenomena seem to oscillate; dynamic theories never will help us out of the obscurity. Considering these mixed phenomena, what we are certain of is, that if vitality confines itself to the conservation of individuals and species, if to attain this object nature employs sometimes brutal force and violence, we know also that intellectual life, by a contrary law to fatalism, tends to enlarge our animal affinities and to generalize the egotistical principle of our existence, by applying the rules concerning individualism to a larger circle of our fellow-creatures; and thus mind in its natural expansion becomes more free and apt to love and do charity, and finally it enables us to enter regions of spiritual life entirely unknown and imperceptible to our natural and material senses. *Fatality, brutal force, and slavery must give way to intelligence, charity, and liberty!*

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*A patient, although not dangerous to anybody, must, for his own sake, that is, to be cured, either be placed in an asylum or in a free-air establishment. I have seen cases in which sympathy or consanguinity have been the cause of a sort of contagion of insanity in families.

From this I conclude that mutual reactions do exist between *soul, life, and matter*, and that it is in these reactions that we must look for the proper means to ameliorate our dispositions, and to cure our moral and physical diseases.

Everybody thinks that he is able to judge of the sanity of another person; people say *that man is crazy*, just as they would say, seeing a man falling from a certain height, *that must be a surgical case!* but is that vulgar appreciation sufficient for forensic and scientific purposes? Are simple affirmations of two medical men, or certificates saying only that a person is of unsound mind, sufficient to deprive a citizen of his liberty and property? Certainly not.

There is no doubt that, if mental lesions had always been accurately described, if physicians had not contented themselves, and magistrates been satisfied with, a few lines assuming, *ex virtute officii*, that a man was insane, without joining a full description of the symptoms observed, many errors, injustices, and miseries would have been spared.

We consider the office of a physician in courts of justice of a very high character and value. When he gives his opinions relating to life and liberty, is he not a magistrate of the highest order? The importance of his office elevates his soul and mind above all private interest; are we not real judges when we must decide between the prosecution and the defence? Certainly physicians are fallible; who is perfect? But they are certainly the most able to ascertain the truth in all difficult cases of the kind under consideration.

Medical witnesses or experts must, however, be very cautious; a physician before a court may explain the general ground of his conviction, but we think he is not called to lecture on medicine; therefore theories must be avoided; there is no time, nor is it the proper place, to discuss them. He must remember that every one of his words will be dissected by one or the other party, and therefore say what he means without superabundant words, or any intent of oratorical effect.

Now, supposing a judicial case in which immorality should have been the efficient cause of a mental disease, vice should have taken a morbid existence; the prosecution says that it is clear that the man is immoral, and is only trying to escape punishment; public opinion is against the plea of insanity, as being fallacious: here the physician will be the only one unprejudiced, and in spite of all influence, relying only on the unequivocal signs of material disease in connection with psychical symptoms, he settles the case to the satisfaction only of his conscience. Sudden violent and ungovernable passions are not symptomatic of diastrephia—*nemo repente furiosus*; it requires a certain time before passions or habits can inflict on us either a derangement of functions or a change in our tissues; the power, also, of unbridled organic propensities is of long and gradual effect on our mind. Again, after a long morbid reaction, error, ignorance, and vice may turn monomaniacal conceptions and affect our will, and consequently our doings; then comes the question, When does passion or vice make us insane? Where is the line or boundary of sanity consistent with these causes of disease? Certainly there is for any one of us a line or moral boundary we ought never to pass; every man must be careful of his weak side; and education should have for one of its objects to fortify our will in order to make up for *gifts* in which we may be wanting. Not only is this true, but the brain must be gradually trained to certain exercises: for instance, let us suppose that a man of ordinary abilities would, from the plough, begin and assiduously prosecute high and profound studies; he will first feel premonitory symptoms of overexertion and fatigue of his intellectual powers; but if he continues his foolish task, he will, perhaps very soon, say that some light from heaven has enlightened his spirit, and the man turns a perfect maniac. The so bitterly criticised theory of the celebrated alienist, Dr. Moreau, who pretends that madness depends on an overactivity of the brain, is justified in this case; and when he advances that if vital force accumulates in one of our organs, one of the results must be either a greater energy in its function, as an aberration and a malady, that learned physician is certainly right. It is in this case only that Dr. Moreau sees an affinity between genius and madness. His antagonist, M. Flourens, is a bad judge of the value of psychological works, since the learned perpetual secretary of the Institute has himself proved in a little compilation of his, entitled *Essai Physiologique sur la Folie*, that he did not pay much attention to that special subject.

Who has not felt, when struck by affliction, that insanity was near? It is not so difficult to find the limits of the power of our understanding and feelings, but in judicial cases, to say positively whether that line is passed or not, requires the evidence of material signs. We have spoken of overexertion of the intelligence, but the same may happen with emotional sensibility; nervous persons must oppose as much as possible strong emotions and their effects, by keeping from all indulgence in affections or tender feelings, or from sights that might excite them. Again, knowing the nature of our will, when we are conscious of being irascible and prompt to rash determination, we are bound to check these propensities; if we do not, we put ourselves *voluntarily* in the predicament of a man that willfully intoxicates himself. None of us is doomed to fatality; necessity and autonomy are the result of our double nature; and according to our views, spontaneity always surpasses our instincts, conscience being a lever with which we may overcome the greatest difficulties; irresistibility is only the doom of *Diastrephia*, of which disease we shall proceed now to present the principal symptoms, both psychical and physical.

This paper having for its object to find a practical means of diagnosis for mental ailment, the writer thinks it not necessary to discuss whether the physical symptoms hereafter described have or have not a constant and exclusive relation with diastrephia. Inattentive observers will perhaps maintain that some instances of mental disease, and especially of moral insanity, are destitute of any physical symptoms. In numerous cases in which some alienists thought, and for a time maintained, that insanity left no trace in the brain, the microscope has shown that they committed an error. Indeed, presumption alone can insist that in the cases alluded to a function may be disordered and its organism undisturbed. Proof is out of the question, while simple logic shows that the recognition of such a state amounts to an impossibility. If here mere speculation be taken for granted, and scientific revelation be denied, diastrephic cases must of course forever remain subjects of interminable and useless discussion between philosophers, lawyers, and physicians!

As insanity cannot exist without a certain form of disease, nor bodily health at the same time with madness, moral insanity, or diastrephia, being a disease of body and mind, must present several phases or stadia, as all infirmities do. The following description is a sketch of the general and special pathology of diastrephia.

Patients generally are quite different in manners, habits, ideas, language, and feelings to what they were before, or their bad habits, customs, or indulgences are more frequent, and become notorious. After a certain time elapses, after these, the premonitory symptoms, patients are incapable of serious occupations; their will is impaired, instincts are perverted, and their power of control is lost; then appear sudden and irresistible impulses, unaccountable eccentricities and whims, desire of change, and sometimes delusions, or mono-delirium. It has been noticed that some take pleasure in telling untruths, and in deceiving people, when otherwise they were not loquacious; others are remarkable for their hardness of heart and selfishness. Some become maniacs, but oftener a profound melancholy is about them; then the disease assumes a character of deeper intensity; a profound immorality is often accompanied with consciousness of a propensity to crime; indifference or sometimes delight of doing evil; peculiar and strange mode of committing crime; ready admission of facts, however scandalous or horrible they may be; absence of grief and remorse. In all these cases, letters, memoirs, and other pieces of composition are of the greatest value to ascertain the state of the mind of the writers; their complaints are often of a delusive character.

Diastrephia may also run a milder course, and appear only in fits, variable in their remittency, intermittency, or periodicity; some patients have them coming on every month; I have seen one who remained sometimes one year free from attacks. During their lucid intervals they show almost no sign of insanity. Dipsomaniacs employ, then, much art in preventing people from remonstrating; for instance, they will feel offended, being a gentleman or gentlewoman, by being told that they were found dead drunk, etc. Some regret what they have done, and beg to be taken care of when their attack is coming.

No physician of our days denies the solidarity of *innervation, sanguification, and nutrition.* In man, those functions have a still greater importance in regard to the functions of the brain; any long process of *enervation* will operate a change in our organism, just as any deviation of nutrition will produce a morbid diathesis. Now, is it possible that a psychical lesion can exist without corresponding symptoms or morbid reaction? It is impossible; and is it not, then, self-evident that diastrephic cases might remain subjects of interminable discussions between philosophers and jurists, if the physicians came not forward to solve their doubts?

Our conviction on this important subject may, perhaps, make us appear to overrate the value of physical symptoms; but we must declare that it is *their coexistence* with mental aberration that gives them the advantages we have found in tracing them. The rules we insist upon must be applied, not only in diastrephia, but also in cases of simulation of insanity. Let the part of a feigner be played as well as possible, emotions would be difficult, but somatical symptoms will be impossible, to imitate; even supposing that a simulator could long impose upon a skillful alienist, the result would probably be—real insanity. This is a curious and forgotten form of insanity, of which I intend to speak at length on some future occasion, wishing only for the present to state that its occurrence is the strongest proof of the power and influence of ideas and will on structure.

Amongst the physiological signs of diastrephia, one of the most important is the existence of a morbid action on the brain, produced by either a moral or physical cause. Of course, the brain being the principal seat of a material disorder, pain is reported by the patient to exist in different parts of the head. Other infallible symptoms depend upon the reaction of the diseased brain on the body; the outward characters of which are similar to that of organic pathological disorders; they present various features, the *ensemble* of which strikes, at first sight, a practical observer.

According to the excellent observations of Dr. Billod,* there exists sometimes a curious interruption of the power of volition on the muscular system. In spite of the patient, his limbs will not obey his purposes; the functions of the cerebro-spinal system may be also altered; hence pain in the limbs, muscular tremor, involuntary contractions, spasm of voluntary muscles, and several neuroses, called *proteiformes* by Dr. Cerise. The functions of the sympathetic nerve are also troubled; irregular innervation of arteries and veins producing latent disorders; irregular visceral and capillar circulation affecting the nutrition. Patients are emaciated; they feel a general heaviness over the whole body; their complexion is sallow; their skin harsh; sometimes they are feverish; the heat is increased; the pulse frequent; the tongue is furred, and the bowels permanently confined; sleep is impaired; they have almost no rest at all, nights; in cases connected with melancholia, there is a deficient sensibility of the peripherical ramification of nerves, producing anæsthesia.

Generally, there is an expression of pain in the features and appearance; the physiognomy is dull, and devoid in expression of kind feelings; it shows rather indifference or selfishness; the face is generally pallid; the stare is not vacant, but uncertain; sometimes the eye wanders about; tremulous movement of both eyes when the patient fixes them on any one; there is sometimes squinting; the pupils may be irregularly contracted; when there is irritation, the pupil is *contracted;* in congestion, without irritation, it is *dilated;* in many cases there is a peculiar look, indicating shrewdness and a disposition to mischief. Patients are often occupied by an absorbing thought or passion; sometimes they announce strange desires and perverted appetites; in this case they keep alone as much as possible; generally their movements are sudden and quick, without aim; sometimes they will move round in a room with head and body bent downward, until some rash determination makes them suddenly change their position.

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* Annales Médico-Psychologiques, vol. X., 1847, pages 15, 170, 317.

In diastrephia, the digestive functions are almost always out of order. Gastralgic pains and a voracious appetite are often to be met in the same person; dyspepsia augments their sufferings. In females, uterine affections may be the source of the moral disturbances. Complications may arise from essential local diseases, as gout and rheumatism. Some patients, of a neuropathic disposition, are perfect hypochondriacs, with hallucinations or perversion of feelings and instincts. Some, in spite of a suicidal propensity, are always occupied with anxiety about their health; they ask continually for medicines, and are afraid of doing something wrong concerning their bodily well-being. It may also be found that patients, although suffering, pretend to be very well; they despair of their reason only, and it preys on them night and day; their rest is short, and they get up in the morning unrefreshed; some wake during the night, ask for relief, or want to converse with somebody, in order to avoid terrific images.

When patients are interrogated on the motive of their conduct, or why they committed certain deeds, some cannot account for them; some say it was an impulse, a powerful desire, and so forth.* Some parties answer all questions with much accuracy and adroitness; generally they are exceedingly cunning in avoiding much explanation. Nothing can be found in others that betrays an affection of the mind, although suddenly overtaken by fits of phrensy. Some ask to be secured or taken care of, lest they would commit a crime. We have seen one that wanted to be under the guard of somebody, even if it should be a child. In the free-air establishment of Gheel, many cases proved the singular influence of continual moral restraint. A man who had resided in the village of Gheel, in the family of a peasant, never committed the slightest offence, although under the influence of diastrephia in its worst form. I often visited him, and found the lunatic alone in the house, or sometimes under the guard of the children, the parents being at work in adjoining fields. Some people of his birth-place having reported to the burgomaster of his village that he (the patient) was cured, because they could not find any insanity in his *talking*, a medical report was required, and notwithstanding its conclusion, the administrative authority of his village set him at liberty. A few months after his return home, the man, let loose to his propensities, killed his wife, *in order to cook her feet;* and being disturbed in his horrible meal, he killed also the man that had accidentally called at his house and disturbed him. It is certainly a remarkable fact that, in the free-air system, insane people are almost entirely trusted to themselves, but that they are less tempted to yield to morbid impulses, on account of a sort of moral restraint that calls for their own reaction against bad impulses; in a population of more than a thousand free lunatics, the proportion of diastrephical cases is sufficient to prove the efficacy of the system.

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* Diastrephia being a primary affection of our will, I do not call by that name the disease of the insane person who says, "*I heard a voice saying, Murder that man!*" or, "*Throw thyself from the window!*" This is hallucination. Nor is the name applicable in the cases of insane persons who refuse to eat, to dress, &c.; their will is not primarily vitiated, but their judgment.

When sudden attacks come on, the physiognomy of those patients takes a different aspect, under the influence of cerebral congestion: the face is colored, flushed; the language violent, and sometimes unintelligible; the gesture denotes great exaltation; when the crisis is over, they resume their former, generally sullen, appearance. Some authors have reported that lunatics in this case experienced a sensation of burning in some part of the body, that spreads over by degrees, and arriving at the brain, caused a momentaneous furor, something like that in epileptic fits; there is, no doubt, a great analogy between these two lesions. A young man who during eight years had suffered from epileptic fits, was since two years free from them, but had, instead, become subject to fits of diastrephia; then he wanted to kill somebody. Before his attacks, he often cried "Dear mother! be off, or I must kill you." The attack being over, he would say, "Now you may untie me. Ah! I have suffered much, but I am happy that I did not do any harm."*

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* The state of an epileptic after the fit is over is well known to practitioners. Furor and hallucination are sometimes present for several days; but what is very remarkable, and very much like cases of diastrephia, is the spirit of aggression, spontaneously manifested, even towards persons for whom they have affection. Several physicians connected with asylums have been victims of the spontaneous furor of epileptics. The celebrated case in the annals of crime, that for which Count Bocarmé was executed, offers the curious coincidence, that it was

Diastrephia ends generally in dementia and general paralysis, the symptoms of which run very often into each other; the likelihood of cure depends on the early attendance.

Such are the symptoms we have been able to observe in one of the largest asylums of Europe, during seven years.

All the cases cited in Drs. Bucknill and Tuke's Manual, from page 178 to 220, under the head of *Emotional Insanity*, are pure diastrephic cases, with exception of an emotional disease, erotomania. We observe that the authors do not share Ray's and Hoffbauer's opinions respecting the diseases of feelings and their effect on volition, which opinions they call *unqualified assertions.* They suppose that if there ever be, congenitally, a condition of *the moral sense* analogous to imbecility, it is impossible to apply it as a test to later acquired mental disease. The difficulty of *moral idiocy* is soon laid aside, when the real disease of volition is recognized in diastrephia. Moral idiocy or insanity are scientific puns.

The symptoms of diastrephia require time and leisure to be observed. It is not to be expected that a physician, suddenly called into a court of justice, would be able always to ascertain their existence on a first examination. Days and months may be necessary for such an important object. The only and best mode to study out a medico-legal difficulty of this nature is to have the so-called insane person sent to an asylum. Unhappily, such is not always the course taken in Continental Europe; judges and attorneys for the crown have their own medical officers, who, generally, have no practical knowledge of insanity. On the other hand, the defence of a committed offender tries to find physicians who will do their best for the defendant; each party, sometimes after a few visits to the jail, comes to fight a battle of words before the jury, and on that field truth and justice are often sacrificed. It would seem that many of the difficulties might be avoided by the selection of a medical jury or board, who should report on these cases; if pathognomonic signs of insanity were not sufficiently evident, that board would so state the case, and the accused might be sent before a court's jury, whose good sense generally decides for the best of the public interest. If the jury reported *insanity*, the patient should at once, by king's or people's authority, be confined in an asylum; and when cured, or believed to be so, he might be allowed to

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after he had been *cured* of epilepsy that his perverted mind employed all its energy to discover *nicotine*. Several circumstances of his trial might lead us also to presume diastrephia.

live in a free-air, or otherwise less restricted institution, but not left without some surveillance, lest a new attack should come on.

To prove the propriety of the institution of such a medical board *de inquirendo lunatico*, let us cite an instance. It has been seen that kleptomania, although practiced by rich people, is not always a real case of diastrephia; moral depravity may have not yet effected the change of structure that constitutes a real disease. But let us take the case in which moral insanity was, nevertheless, pleaded on the ground that there was no adequate motive for rich people to resort to stealing. Now, a board of medical men, knowing that the desire to accumulate property by *all and any means* may exist, and finding no symptoms of a diseased brain, would, by committing the offender to exposure and punishment, soon put a stop to shop-lifting in the higher classes. We have here in our favor the authority of Dr. Bucknill, who says that, "in order to substantiate the existence of moral insanity, *previous** disease affecting the brain, followed by change of dispositions, ought to be satisfactorily proved."

The same difficulty of ascertaining the degree of mental capacity of *imbeciles* often exists in civil and criminal actions. Simplicity of mind, as the first degree of idiocy, is sometimes difficult to distinguish from mental weakness or dull understanding. But real simpletons, idiots unable to be left to themselves in society, do not understand the complex notions of social life, and their bodily frame presents a general condition of malformation and weakness; nothing but a sort of stoppage of bodily and spiritual evolutions can explain their case, in which, again, physical signs will be the best means of ascertaining it.

The necessity of a rule by which medical officers should be under the obligation to specify the existence of the moral and physical signs of insanity in their *affidavits*, is easy to be proved. The difficulties arising from summary legal reports, and the dangers resulting from it to individual liberty and property, are evident. In civil law-suits concerning the suspension of civil rights, the validity of wills, etc., it is sometimes necessary to have recourse to medical certificates of an anterior and past period of life of a person; if those certificates are defective on account of a want of a full description of symptoms, and only contain general statements instead of pathological facts, the fortune and liberty of persons are at the mercy of the ablest barrister. In a criminal prosecution it is necessary to know whether, at the time of the commission of the act, real symptoms of insanity existed;

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* It ought to be *actual*—still better.

sometimes also proofs may be found in certificates showing that an old or chronic disease has existed, or that some of the parents or ancestors of the accused party were also insane. We have never seen a case of insanity in which the physical signs and intellectual symptoms of aberration of mind were equally wanting, so that we believe that there is no excuse for summary or general statements of insanity based only on a doctor's privilege.

How is it possible for jurists to form an opinion on the value of our diagnosis of insanity, when, in default of scientific description, we invent names for each case that may present itself before courts—as, *mania criminosa*, *lacerans*, *errabunda*, *sylvestris*, *saltans*, *furibonda*, *rebellis*, pyromania, kleptomania, dipsomania, drapetomania, pseudomania, fanaticomania, etc., etc.*

Now comes the difficulty, moreover, of the mono and poly-mania. The supporters of the theory of the independence of each faculty consider the mind as a compound of attributes, any one of which may be disordered separately; their opponents say that mind is a whole, and cannot, therefore, be divided or deranged in one part, *i. e.*, unless the whole is involved. There may be a prominent morbid idea in the same way that a peculiar aberration of the will may exist, but only as a symptom of a general disease. Now, what advantages may contending lawyers not take out of conflicting theories? Some physicians, on examining a man for whom insanity is plead, overlooking the faculty of volition, might declare an insane man perfectly sane. The supporters of the theory of oneness of mental faculties will declare unsound the same individual that the supporters of monomania would declare liable to be punished, because his offence had no relation to his special delusion! Dr. Falret said to the Academy of Medicine of Paris, that he defied any one to show him a single case of monomania without a general disease of mind and body; he went on asserting that the supporters of the monomania theory did certainly not know the means by which that disease could be ascertained. It is certainly true that diastrephia may exist in its incipient stage without having much deranged the general functions, and remained unnoticed by the friends of the patient; of course, meanwhile accidents may happen.

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* We cannot resist here to quote the severe but deserved criticism to be found in a recent work on Malpractice and Medical Evidence, by J. J. Elwell, M.D., Member of the Cleveland Bar, (New York and Cleveland, Ohio, 1860.) "There indeed seems to be a name for every conceivable kind of mania except that of maniacal classification, or insane nomenclature."

Speaking of analogous cases, Dr. Max relates that on one occasion a French judge said to him, "*If monomania be a disease, it ought, when it proceeds to capital crimes, to be cured in the Place de Grêves, i. e., by the guillotine.*" This cruel proposition, although repugnant, has something of truth in it; not as to the punishment inflicted on patients, but as to the necessity of repression of those crimes by a moral and religious education; by teaching young people first to obey and afterwards to command, especially their passions or desires; by stimulating our activity towards good. If repressive action be necessary, by prompt exposure of delinquencies leading to crime, by a repulsion of what is vicious, especially *psychopathia sexualis* in young people, and drunkenness in all classes; and last, not least, by an early attendance to premonitory symptoms of diastrephia.

There is no doubt that the plea of monomania has been an expedient to screen criminals, and that it has been carried sometimes to a ridiculous assumption. Eccentricity has sometimes been also a means of falsely arguing the charge of insanity against persons, with a design to deprive them of their fortune; it is true such crimes are rare. Eccentricity in many cases is only a form of spontaneity and freedom of mind, and therefore, by the scientific and experienced physician, easily to be distinguished from real symptoms of insanity. In countries where the sphere of activity is enlarged by public freedom and private energy, this distinction is very necessary; but here also diseases of volition must be more common. Dr. Woodward, of Massachusetts, observed that *one-fourth*, at least, of the lunatics committed as such belonged strictly to the class whose disorder was moral insanity.

Generally, in the beginning of mental derangement, some monomaniacal propensity may be remarked without the presence of prominent symptoms. The eminent writer and alienist, Dr. Forbes Winslow, in his last work on *Obscure Diseases of the Brain and Mind*, well points out the premonitory symptoms and the manner in which insanity steals upon the constitution. "This is precisely the time," he adds, "when medical aid is the most capable of being beneficial; but unfortunately the golden opportunity is too often neglected; diseased action is allowed to proceed unchecked until diseased organization has taken place, and the patient has become incurable."

In the premonitory stage of diastrephia, medical assistance will be of the greatest effect; therefore it becomes the general practitioners to prevent its further progress in the families where it may appear. When the disease is allowed to go on for a certain time, it becomes incurable, while in its beginning a medication appropriated to the nature of the case, proper diet and occupations, and, if necessary, a certain moral restraint, would have the effect of curing that most distressing disease.

One difficult point remains to be elucidated regarding incipient cases of diastrephia, or rather, concerning the prodromic period preceding the disease itself. The question is this: When ought vice and immorality to be considered as the proximate cause and only motive of an act? or, When are they to be considered as a general cause of a lesion, either functional or structural? If hereditary predisposition or an accidental cause can clearly be traced, the case may be clear enough; but if a crime be committed by a notoriously immoral man, although he may be in all the conditions which might bring him *later* into a positively pathological state, the case appears more difficult to decide. Is the line or boundary between reason and insanity already passed or not? We say, if pathological symptoms cannot be traced *clearly*, if psychological symptoms are *doubtful*, a medical man cannot give his evidence in favor of insanity.

In the course of this paper we have tried to keep clear of a confusion about the unsoundness of moral sense, widely different from that unsoundness of mind being the result of a pathological condition of the brain. Physicians have certainly no wish to impose with ambiguities, by which juries or public opinion should be bewildered. Their differences of opinion depend only on the views they take in doubtful cases. What we have stated in the preceding pages are the principles we maintain, and we have long proved that they, at least, are disinterested ones. Now, they find a curious application in the well-known trial of a former broker of New York—Huntington.

Shortly after my arrival at Sing Sing, a book on this case was kindly lent me by one of the most distinguished physicians of the County of Westchester, Dr. Fisher, and through his influence, I was introduced to the convict in the State Prison.

From the mere reading of the case, it appeared to me that the subject of that trial had been either a lunatic afflicted with a special deficiency of moral sense, a great instinctive cunning and abilities to deceive, or that he was a lunatic under the influence of diastrephia. After my visit to the State Prison, I came to the conclusion that Huntington was neither the one nor the other.

After a few words exchanged, the convict himself declared that, in his opinion, he had never been properly insane, though he had felt *something wrong* going on in his head until two years since; up to that period he would have counterfeited any man's signature; he added, that his habit of forging had come to a degree that, to get his *own money* out of a bank, he would have rather employed a forged paper! Being, of course, a perfect stranger to all parties who appeared in his trial, the opinion I venture is free from prejudice, and only liable to errors of my own.

It appears that, in the State of New York, a jury decides upon cases of insanity in civil law-suits, and in criminal cases when the plea of insanity is brought forward. The law of the State, as explained by the learned judge in the case of Huntington, does not admit moral insanity as an excuse for responsibility. Partial insanity, or monomania, would not absolve the party, unless it wholly deprived him of the power to distinguish between right and wrong. We have already objected to such a law, as not being in accordance with facts; but whatever the law may be, by another mistake, the jury is omnipotent in scientific difficulties, because, by its verdict, it may absolve the offender without further explanation, or condemn without knowledge of the scientific question; it may, therefore, in individual cases, correct the law, or go beyond it to either extreme. Now, I believe the jury was right in finding Huntington *guilty*, although some doubts might have been entertained on his sanity. The necessity of visible symptoms, moral and physical, establishes, as a consequence, that in their absence or obscurity, that offender could not be found irresponsible for the numerous forgeries he had committed.

I am, nevertheless, convinced of the good reasons that the honorable medical witnesses brought to establish their opinions. Both of them have shown profound knowledge and aptitude to discuss the most difficult points of philosophy and medicine; but the whole of their examination shows how much the physical symptoms were wanted to guarantee the existence of moral phenomena inclining towards insanity. It was with a certain anxiety that, reading the case, we searched for the moment when the doctors, pressed by the clever lawyer of the prosecution, would have reached their firm ground, *Pathology;* but we found that the few morbid symptoms were not sufficient either to impress the jury, or give a solid ground for the defence. However, the whole appearance of the case leads to the admission of a *prodromic stage of diastrephia:* Huntington's conduct and actions from a boy up to the time of his trial for forgery, bear the characteristic of some hereditary disposition to insanity; his diseases when a child might have had a depressive influence on his conscience, and later in his life, his temperament and propensities could hardly be checked by education. In prison, he was found indifferent to his situation when accused of a capital offence. His appreciation was defective. Was he simulating insanity? The prisoner maintained that he never had the intention of injuring anybody! still, he made use of his forgeries as the means of accumulating enormous sums of money, of which he spent a great part!

Huntington said to us, that it was a desire *that came over him*, and nothing in the world would have prevented him from forging paper; that his sleep had always been very short, but that, *since two years*, he slept better; that he had suffered from pain in the head; that he had felt blacksmith's sparks in the eye, and had been subject formerly to constipation of bowels and to external hæmorrhoids.

The learned counsel of Huntington explained the curious circumstances of carelessness of his client about his forgeries. The prisoner had made no arrangements to escape or prevent his arrest. Then the able advocate put several questions to the physicians.

1st. Whether, in their opinion, the defendant was sane or insane when the forgeries were committed?

2d. If insane, what was the nature and character of that insanity?

They answered, that it might be possible that all might take place as the result, almost, of unparalleled recklessness; but that from personal examination, and also from the testimony heard, they would say that those actions were actions of an insane man. I believe that answer unsatisfactory, because it admits, almost, the recklessness of the acts, and not their morbid nature, and that the testimony about Huntington's conduct and acts could not supply the wanted symptoms and characters of an actual state of insanity.

Cross-examined by the advocate of the prosecution, one of the medical gentlemen was asked this question:

Question: Upon what the prisoner said to you, and from what you judged from his appearance, would you pronounce him of unsound mind, *from your examination of him and from his appearance?* The question is direct, and points out the vital knot of the difficulty.

Answer: Not by his appearance, but from my examination of him, I should. The same physician said further, that the expression of the face of Huntington was not that of a villain, but that of an insane man. This was a general statement, but here a description of symptoms was wanted.

Now, the advocate of the prosecution very adroitly asked the doctor to explain what was the disease of his *physical organization* which prevented him from *resisting the tendency* to commit forgery? The lawyer had felt the weak side of a jury, unable to understand the unsound subtlety of the question, and the doctor was obliged to confess that it was impossible for him to give the *pathological anatomy* of the case!

It was useless to say, to satisfy the audience, that Huntington had certain symptoms indicative of congestion of the vessels of that part of the brain that furnishes the nerve to the eye; a steady pain in the head; that he could not sleep, and that his head felt as if there were trip-hammers beating. The advocate insisted upon knowing the relation of physical injury to a moral perversity, by repeating his question: *What urges the patient to forge paper* ?

But was not the learned lawyer laying a sort of trap for his respected and intimate friend, as he called him in his exordium ? Why, that unqualified question might have misled a less capable and learned physician to invent some new monomania connected with a forging impulse! The question was improper before a jury of laymen, because it had nothing special to do with the trial as bearing on primary causality in moral nature, and a *modus operandi* of structural pathology.

Another physician, also a learned professor in a medical school, deposed, with great accuracy, that he did not believe in the existence of monomania, because the mind was a totality, and that Huntington was insane, because his intellectual and moral nature, as well as his propensities, were diseased. Why were not objective proofs added to this declaration ? Moreover, the honorable witness stated that, in this case, no *delusion* nor *hallucination*, but *moral insanity*, existed; that Huntington in his moral obliquity would, perhaps, in the West, have committed criminal acts with violence; but that, having *satisfied himself* that Huntington was insane, he thought it unsafe to say or foretell what particular act in criminal propensity an insane person would commit.

Although the verdict was, I believe, a just and right one, does it not appear injudicious that a jury of laymen, not understanding in general the value of a discussion on medicine, especially under the influence and conduction of lawyers, should be omnipotent judges of the case ? With reference to the *knot* offered to the jurymen, they may very well have said among themselves, that, balancing the moral account of that broker, they found him *guilty*, whatever his state of mind might have been.

Now, the prisoner is in a certain measure cured, since he says he will never more commit forgeries; punishment, besides being *just* in every relationship, may here have reformed bad natural dispositions. Again, not believing in fatalism of matter, neither absolutely in that of hereditary disposition—we say, let us employ our free-will and energetic attention to rebuke bad inclinations or desires, in order to check the progress or beginning of a mental disease.

I conclude this paper by submitting the following propositions:

I. That the disease called moral insanity is but an affection of the faculty of volition and instincts, always attended by physical and physiological symptoms.

II. That the name of moral insanity is defective, because it bears no relation to its cause, symptoms, and results; and that it misleads the opinions of the bar concerning crimes committed under its influence.

III. That the laws and rules concerning insanity, relating to civil and criminal cases, ought to be made conformable to the actual state of medical science.

IV. That no person ought to be considered as being insane, if physical and mental signs cannot be traced and ascertained.

V. That a reform concerning medical certificates is necessary, to insure regularity in obtaining from courts or judges orders to detain a person as being insane; that no such document be admitted, unless containing,

1st. All the anamnestic, physical, physiological, and mental symptoms of the case.

2d. The diagnosis and prognosis of the disease.

Now, until a reform be made, we beg the license to say to legislators and jurists, *Si habetis corpus nos habemus animam.*

Report of Operations performed in the Eye Department of the Brooklyn Medical and Surgical Institute. By Dr. Julius Homberger, Ophthalmic Surgeon of the Institute.

(Continued from October No., p. 262.)

21. *Strabismus converg. concomitans oc. dext.* John B., æt. 15 years, had a deviation of two lines of his right eye. As an exception from the rule in concomitant strabismus, the affected eye was not in the slightest way amblyopic. I divided the tendon of the rectus internus on the 16th of June, and saw the patient perfectly cured on the 25th.

22. *Strabismus concomitans conv. oc. sin.* Charles S., æt. 31 years. I operated by tenotomy on both eyes at once, as the deviation was exceedingly great in this case. I saw the patient, a fortnight after the operation, with a slight squint—half a line of deviation, perhaps—

which will disappear during the third period, *i. e.* in the course of the next two months.

23. *Purulent Chorioiditis. Iritis. Cyclitis.* Elizabeth G., a colored woman, 39 years of age, presented herself on the 17th of June, at the clinic. She complained about most violent pain in her right eye, which had been attacked by a severe inflammation two months ago, without any cause known to her. A physician had treated her with antiphlogistic and resorptive means. She seemed to be very weak; was salivated, and very much afraid of losing her other eye, with which she had already begun to see less sharply than usual.

The cornea of the right eye was transparent, except a slight, still translucent, opacity of its posterior surface. The anterior chamber was almost obliterated; the iris was discolored to a mixture of brown and gray; the pupil was not central, but upward and inward, and its margin connected with the capsule. The latter was not transparent; when I concentrated the light of the opththalmoscope on it, I obtained only a dim reflection. It was impossible, therefore, to get a view of the depth of the eye. The vessels of the conjunctiva were pretty much injected, as was also the case with the anterior ciliary arteries and the subconjunctival vessels in general. Near the external and superior part of the cornea the sclerotica was discolored, and showed a small dark-brown tumor, scarcely two lines in diameter. The examination of the left eye with the ophthalmoscope did not yield any result. It was the first negro eye I ever examined with this instrument. I had a right to suppose chorioiditis, by the anamnesis, but could of course not diagnosticate it by the ophthalmoscope, as I had no normal eye for comparison, and as the strong pigment naturally renders the examination of the choroid more difficult with negroes.

The right eye gave no perception of light, and the organic changes were of the gravest nature. Antiphlogistics, &c., had been used already, more than necessary; and as I did not doubt that purulent chorioiditis was the cause of the trouble, that dissolution of the retina had already taken place, and the left eye was in danger of becoming sympathetically affected, I resolved to remove the eyeball at once. This operation is not a severe one, when properly performed. The eye is only shelled out, as it were, all the muscles being left behind; and the operation is always to be recommended in cases of purulent chorioiditis, with sympathetic affection of the other eye.

I placed the patient under the influence of chloroform, and made first the tenotomy of the inferior internus and superior recti muscles, just as in the operation for strabismus, only dividing the conjunctiva to a larger extent, and less carefully. With a pair of Cooper's scissors I then divided the optical nerve. After this, making the eyeball bulge as far as possible by pressing the lids downward, I cut from backward the externus rectus and the obliqui muscles. The eye came out of the orbit perfectly unhurt; all the muscles were left behind, and only the inserted parts of the tendons were to be seen on the removed organ. The bleeding was trifling; the patient went home an hour after the operation. I ordered cold compresses and good and nutritious diet, and a solution of chlorate of potash against the salivation. I went to see her the third day after the operation, and found her working in her kitchen. There was no inflammation whatever; the ciliary neuralgia had disappeared; she could sleep all night, and the troubles of vision in the second eye seemed to her to be decreasing.

The removed eye did not show anything abnormal in regard to form and diameters. When dissected, it revealed various spots of destroyed retina upon those places of the choroid where purulent chorioiditis had set in. The lens was not to be discovered, but as a fragment contained in the capsule, which was grown together with the whole posterior surface of the iris. The iris was much thickened and degenerated. The tumor mentioned above, as being near the cornea, extended through the sclerotica, and was connected with the ciliary body. As to its precise nature I do not allow myself to pass judgment. I sent it for examination to more competent hands—to Dr. Schweigger, one of Graefe's assistants, and a first-class authority in microscopical matters.

I shall not fail to publish the result of his investigation as soon as he communicates it to me, together with a minute account of the microscopical examination of the whole eye.

24. *Staphyloma Iridis Totale. Hydrophthalmus. Ablatio Corneæ.* Caroline Ch., æt. 16 years, presented on her right eye a complete staphyloma of the iris. The diseased eye had been wounded with scissors some ten years ago; it is totally blind, larger than the other; the superior eyelid extended, and showing small varicose veins at its margin. I diagnosticated, as the case belonged, undoubtedly, in the hydrophthalmic group, a chronic chorioiditis, secondary to the malposition of the iris, with synchysis of the vitreous body, mechanical excavation of the papilla of the optic nerve, and paralysis of the retina. I proposed to the patient the ablation of the cornea, so as to render her able to wear an artificial eye. When I opened the eye

with a large cataract-knife, forming a semicircular flap, a large part of the perfectly transparent and most fluid vitreous body ran out. I took the flap then, and cut it off with scissors. The patient began vomiting just when I was done with this, and the rest of the corpus vitreous was now thrown out, and some bleeding from the vessels of the chorioidea ensued. The blood soon formed a coagulum, but at a second effort at vomiting, there was a new rush of blood. After this, the bleeding stopped. For the first few days, cold water was put by compresses on the eye; then warm poultices were applied, to favor the beginning of suppuration. The coagulum came out by-and-by, and on the 26th of July, five weeks after the operation, the patient had a very nice stump, just small enough to receive an artificial eye, and large enough to give to the latter all possible mobility.

25. *Strabism. converg. concomitans oc. sin.* The patient, Esther H., æt. 24 years, presented a strabismus of 4‴. I made, with caution, two tenotomies on both sides at once on the 23d of June, and saw the patient with straight eyes a fortnight afterwards.

26. *Prolapsus Iridis. Iritis. Iridectomy.* Lora T., æt. 13 years, had got a perforating ulcer of the cornea and prolapsus of the iris during an attack of variola. The mother brought her to me the first day the patient came out of her bed. I found the fibres of her light-blue iris dim, and indistinct on both sides. The right pupil was motionless, and showed small posterior synechies. On the left eye, I found the whole inferior part of the iris prolapsed, and the prolapsus already covered with newly-formed tissue; the pupil was somewhat drawn downward; the iris without mobility. The patient could scarcely read large print with this eye, while the functions of the other were but little disturbed. I performed iridectomy on the left eye, and the inflammation subsided very soon; the sight improved so much that the patient read small print a few weeks after the operation. On the other eye, I succeeded in tearing up the synechies by the use of a solution of atropine, administered *coup sur coup.*

27. *Chronic Iritis. Closure of the Pupil by Pseudo-Membranous Exudations. Posterior Synechies.* Michael C., æt. 46 years, had but his right eye; the left one was perfectly atrophied by a wound he had received thirty years ago. The right eye showed the symptoms above mentioned, and the patient could hardly lead himself. I performed iridectomy on the 27th of July. The patient could see my watch, and read very large print, No. XX., in the middle of August. He suddenly disappeared from the number of my daily visitors, and I have not seen him since. In all probability his sight is still improving.

28. *Strabismus concom. convergens oc. dextr.* Charles D., æt. 18 years, with a squint of the right eye of five lines, was operated by tenotomy of both the recti interni muscles. I saw him on the 10th of August, with a strabismus of one line. I proposed a new operation, but have not seen him again.

29. *Strabismus converg. concomitans oc. dextr.* Josephine H., æt. 32 years. Deviation 4‴. Tenotomy on both sides at once, 9th August. Seen with convergence of scarcely half a line on the 15th of August.

30. *Chorioiditis. Amblyopia. Beginning Atrophy of the Optical Nerve. Cataract.* John B., æt. 45 years, had noticed since a few years that his sight was getting weaker and weaker, and now the sight of the right eye was entirely failing. He could, with the left eye, not distinguish No. XX.; with the right, he had merely a good perception of light. I found the pupils a little torpid and dilated on both sides, and the pupil of the right eye gray. With lateral illumination, I found an almost mature cataract on the latter. Its examination with the ophthalmoscope was impossible. The bottom of the eye on the other side was easily to be examined by the ophthalmoscope. I found chorioiditis, opacity of the central parts of the retina, particularly around the macula lutea, and that particular tendon-like colored appearance of the optical nerve, indicating atrophy. At the same time, I discovered those thin, radical, opaque stripes in the lens, indicating beginning cataract. I gave sublimate and iodine in small doses to the patient; ordered vesicatories behind the ears, to be kept open for weeks, and performed iridectomy, (partially with the hope to stop the inflammatory process,) as I knew it would become soon necessary to extract the obscurated lens. The operation of attacking and extracting the lens with spoons seems to be more safe, if iridectomy is practiced beforehand; and I consequently did not risk anything in performing the operation ambulatorily, as the patient was momentarily unable to enter the hospital and undergo the extraction of the lens.

I will give, in the future, the rest of the history of this case, as soon as I get the patient to undergo the remaining operation.

(To be continued.)

Syphilis during Pregnancy and Lactation. (Section 285 of "A Text-Book of Midwifery," by Dr. Carl R. Braun, Professor of Midwifery, etc., in the Imperial Hospital, Vienna. Translated by BENJAMIN LEE, A.M., M.D.)

Women suffering from secondary syphilis during pregnancy usually infect the fœtus and the peripheral portions of the egg through the medium of the blood. The egg consequently perishes, and is prematurely expelled. Many cases of habitual abortion are to be explained in this manner.

Should the fœtus withstand the infectious influence of the mother until the second half of pregnancy, it then does not usually die, but is often prematurely born, giving evidence of its syphilitic heritage at birth by a puny frame, a dirty, smoky, mouldy skin; by vesicles of pemphigus on the palms of the hands and soles of the feet; by round, copperish-red spots or scars on the same surfaces; by condylomatous growths at the points of transition from cuticle to mucous membrane; and by ozena, or nasal catarrh. Such children generally die in the course of the first few days.

On examination after death, evidences of congenital or hereditary syphilis are often found, sometimes in the shape of collections of pus, of the size of a filbert, in the thymus gland, the lungs, the kidneys, or the testicles; sometimes as areolar growths in the liver. These, however, are in many cases absent. Any one who will take the trouble to examine the bodies of a number of fœtuses suspected of syphilitic infection, can readily satisfy himself of the frequency of these alterations in the various organs.

As to the connection between hereditary syphilis and the degeneration of the thymus and liver, noticed by Dubois,* I have had several opportunities of convincing myself of its reality, in company with Wedl,† Dittrich, and others. We usually found in the corresponding lobes of the thymus several cavities filled with a purulent fluid, or a large central cavity, containing, like the former, a turbid, yellowish fluid. This fluid did not contain the well-known gray nucleated elements which characterize its normal condition, but granular spherules, which, on being treated with dilute acetic acid, exhibited the characteristic nuclei of pus-corpuscles; in the intercellular fluid, elongated threads of mucus also came into view. In the more consistent portions of the walls an exquisite variety of cellular tissue was met with.

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* Dubois, *P. Gazette Médicale*, 1850, No. 20.

† Wedl's *Pathol. Histologie*, S. 359 and 519.

In the liver were found cellular growths of a more definite form. In one case, a rounded tumor of the size of a bean, and tinged with yellow, projected slightly from its concave surface, with edges not distinctly defined, but shading off into a brownish-yellow, and finally, into a liver-brown color. The lighter-colored portion of the growth extended to a depth of about the third of an inch. On section, its centre was found to be intensely yellow. The consistence of the imbedded mass was generally very perceptibly denser than that of the surrounding parenchyma; to the touch it was irregularly granular; on pressure, only a small quantity of turbid fluid could be expressed. The softer parts of the new formation consisted principally of cells of the most varied forms, presenting one, two, three, or even four processes, and containing one or two nuclei of an oval form, in each of which was found one nucleolus. The nuclei were eccentric in position, and when double were often in close proximity; but in certain cases, and especially in that of the hour-glass cells, were situated at the two expanded extremities, at a considerable distance from one another.

The fusiform cells, varying greatly in their transverse diameters, were arranged upon one another, as usual, in obliquely ascending layers. The denser portions consisted mainly of fibrous fascicles. The remaining substance of the liver offered no striking anomaly.

Another phase of these cases is that in which gestation is not interrupted by the syphilitic poison; the fœtus matures and is well developed, and the child presents at first not a single symptom of syphilis. The sanitary condition of such children, however, usually presents a sad picture, when, at a later period, hereditary syphilis, scrofula, or rickets manifest themselves. Women affected with secondary syphilis, whether its evidence be confined to the skin, the mucous membrane, the iris, the bones, the cartilages, the glands, the muscles, the areolar tissue, or the internal organs; or whether its impress be stamped upon all these parts of the economy at once, abort very frequently, or give birth to dead (macerated) or miserable living children. Or if they perchance bring into the world mature and apparently healthy offspring, the hereditary disease shows itself in the course of a few days or weeks. A determination of the two following questions is therefore of great importance in practice:

1. Are the condylomata of pregnant women ever an indication of constitutional syphilis? and if so, what particular forms of them?

2. Are vaginal blennorrhœas ever an indication of venereal disease? and if so, what forms of them?

Condylomata occurring in connection with other symptoms of secondary syphilis, as for example, the syphilides, enlargement of the glands in the region of the neck, and the flexure of the elbow, ulcerations of the throat, and indurated chancres, usually, indeed, communicate the disease to the child during pregnancy. But, with regard to condylomata occurring in women who appear otherwise entirely healthy, presenting no other trace of secondary syphilis, there still exist wide differences of opinion. They are supposed by some to be specific, by others non-specific. Many number the pointed condylomata with the latter, and the broad with the former variety. It is considered by a large number of writers that they occur only secondarily, as a product of chancre, and are contagious; by another school, that they are the result of both chancre and gonorrhœa; and further, there are those who suppose that they occur primarily and without the precedence of any syphilitic symptoms, and are therefore inoculable and contagious.

The opinion that the pointed condylomata are simply the result of maceration of the epidermis or epithelium by a blennorrhagic or seborrhagic section, has its supporters, while the so-called subcutaneous or endofollicular condyloma is justly said by many to result from neither syphilis nor gonorrhœa, and hence, of course, to be non-contagious.

With so extensive a diversity of views, it becomes of the greatest importance to the gynecologist to adopt a definite opinion on the nature of these growths, in order to be able to shape accordingly his treatment of women affected with them during pregnancy, and of their children during lactation.

Simon,* of Hamburg, has published the following very important propositions with regard to them, which my own observation leads me to sustain. He says:

"There is, in point of fact, no reliable diagnostic sign between syphilitic and non-syphilitic warts. *The greater proportion of such growths in the anal and pudendal regions are probably of an infectious nature*, as they doubtless were before the outbreak of the venereal disease. They are hypertrophic growths of the submucous and subcutaneous cellular tissue; dry where the epidermis is thick, moist where it is thin or wanting, (*plaques muqueuses,*) and vary in form with their situation, being broad and symmetrical about the anus, and pediculated in the vagina and at its mouth."

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* Simon, In d. spez. Path. and Therap. Red. Virchow, Bd. II., Abth. I., S. 421.

It is extremely improbable that condylomata occurring during pregnancy in the neighborhood of the genitals, depend simply upon chafing of the epidermis or epithelium, for we find profuse leucorrhœa in fifty per cent. of women during the second half of pregnancy, producing redness, chafing, and even excoriation, and yet never exerting the slightest injurious influence on the development of the fœtus, or infecting the child with gonorrhœal ophthalmia during labor, or inducing specific eruptions after birth; while, on the other hand, condyloma, in all its varied forms, is met with only in one per cent. of the women in lying-in institutions, and still more rarely among married women.

The condyloma of pregnancy must therefore be produced, not simply by a leucorrhœal secretion, but by some peculiar element of this secretion; and we may safely say that every condyloma occurring on the genitals of pregnant women justifies a suspicion of syphilis, or of some one of those similar hybrid poisons; and also that it may lead to symptoms of the hereditary disease in the child, as has been established by my own investigations.*

Friedinger's† proposition that "children born of mothers affected with pointed condylomata (primary syphilis) are never infected by the poison," cannot be received as an axiom, because his observations extended only to the third month, while hereditary syphilis may break out even after vaccination has run its normal course, and subsequently to the limit fixed by him. As regards the relations of this subject to medical jurisprudence, the following representative dogmas of Diday,‡ and, to some extent, of Hebra, Sigmund, Friedinger, Wertheimber,§ the author, and others, on the *transmissibility of syphilis in pregnant and nursing women to the child*, are of the greatest importance.

1. If the father present symptoms of the syphilitic diathesis at the time of coition, the child will undoubtedly acquire them.

2. If the father has been infected at some previous time, but at the time of coition presents no symptoms of the disease, the child may possibly, but not certainly, escape.

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* Braun, C. Zur Syphilis Congenita, Œster, Zeitsch. f. Kinderheilk. Wien., 1856. S. 201.

† Friedinger, Ebenda, S. 255, und Wiener Ges. Z., 1854, V.

‡ Diday, Traité de la Syphilis de Nouveau-nés et des Enfans à la Mammelle. Paris, 1854.

§ Wertheimber, Ebenda, S. 145.

3. On the same principle, the influence will certainly make itself seen if the father be in the interval between two consecutive outbreaks of constitutional syphilis, or between an attack of the primary affection and the subsequent appearance of the general symptoms at the time of connection.

4. It may also occur, if a diseased man cohabits with a healthy woman during pregnancy, without the latter showing the slightest evidence of the existence of the affection.

5. The mother implants the disease in her offspring, either by the production of an ovum, which has become diseased in consequence of the constitutional vice, or if not herself infected until after conception, through the medium of her morbid blood; for if a widow whose deceased husband was infected contracts a marriage with a perfectly healthy man, the children by this marriage may evidence most unmistakable traces of the affection; and further, if a healthy woman suckles the syphilitic child of a stranger, her own subsequent offspring may feel the pernicious effects of her incautious kindness.

6. A mother affected with the secondary symptoms at the time of conception may transmit the disease to the child, while the father is perfectly healthy, and has never been syphilitic.

7. A woman who has taken the disease during pregnancy may transmit it to the child between the second and the seventh months; whether this be possible at an earlier or a later period is at present doubtful.

8. In a marriage where only one of the parties is syphilitic, all the children are not of necessity affected. It may even happen that only one of twins is born with the seeds of disease in its system. This appears to depend upon some preponderating influence of one or other of the parents. If both parents are syphilitic, the child is usually born with the marks of disease upon it. Hereditary syphilis begets scrofula only in the presence of certain conditions, viz.: the fact that both parents at the time of coition were in the third stage of the disease; that the constitution of the child, or of either of its parents, is lymphatic; that the child has been nourished entirely upon its mother's milk; or finally, that the anti-syphilitic treatment was not adopted at the proper time.

9. Syphilis can be communicated to the mother through the fœtus. The transmission here takes place through the blood, and corresponds to the infection of the fœtus by the father, while the mother is healthy.

10. The immediate communication of syphilis to the child (from a primary sore or virulent vaginal discharge during labor) is, in the

opinion of most gynecologists and syphilographers, rare. For this there are two reasons: first, that primary sores are rarely found in the advanced stages of pregnancy; and second, that it would necessitate the prolonged contact of a particular part of the fœtus with the surface of the ulcer, or the presence of an excoriation on its skin, and the partial absence of the *ver nix caseosa.*

11. In sucklings, the infection occurs either through an infectious point on the skin of the nurse, or from the diseased milk. Generally it is first communicated from a child to the nurse, whose nipples then become the seat of condylomata, and in turn transmit it to another child.

12. Although, in the opinion of Diday, Simon, Baumès, Cullerier, and Vidal, it has been demonstrated that infection of the suckling may occur through the medium of the milk, still they allow that the affection is in such cases milder, the eruption appearing later, and often manifesting itself under the form of scrofula.

13. A woman who has given birth to a syphilitic child runs no risk of infection in nursing it, from the fact that syphilis does not occur twice as a constitutional disease in one and the same individual.

14. The passive infection of nursing women usually results from mucous tubercles in the mouth of the suckling; these being among the earliest manifestations of syphilis in the new-born, and pouring out a very abundant secretion.

15. The demonstration of the actual transmission of syphilis from the nurse to the child, in any particular case, is surrounded by difficulties. The nurse may have been cured previous to the time of the examination, and no trace of the disease be left upon her person; or if there be evidences of it, it is supposable that she may have been since infected by another child; or the child may have become diseased through the medium of the milk, although the nurse has had no visible indication of its existence in her system; or the child may have been infected by another person; or finally, a small syphilitic scar upon the nurse might easily escape the scrutiny of the physician.

16. The syphilis of the new-born is, under very favorable circumstances, transferable, although not always inoculable.

17. If the virus of a primary sore be introduced by inoculation at the same time with vaccine virus, a hyaline vesicle is formed, which ruptures on the fourth day and develops the syphilitic ulcer; the vaccine lymph, however, is vitiated, the regular pustule not forming until the eighth day, according to Sigmund, and, as Friedinger's investigations would show, not even then.

18. Vaccination, if it run its regular course in a child affected with latent syphilis, induces a more speedy manifestation of the latter. There are cases, however, in which it does not show itself for a considerable period after vaccination.

19. Rickets, in its various grades and modifications, is a not unusual termination of hereditary syphilis, where it has not been recognized and treated as such.

20 Condylomata rarely, almost never, induce constitutional syphilis in pregnant women, and, save for their obstinacy, admit of a tolerably favorable prognosis. They are, however, extremely dangerous to the fœtus. The poison interferes with embryonal development, attacks all the most essential organs, and in the new-born enters the great mass of the circulation, without any diminution of its virulence by the action of the lymphatic system.

Physicians are still divided in their opinions as to its treatment during pregnancy, from the alleged fact that a mercurial course may kill the fœtus and induce abortion. This apprehension, however, we do not share, and to our mind the method proposed by Simon appears perfectly rational. He says: "Inasmuch as pregnant women, suffering from any well-marked syphilitic affection, usually abort in the second half of pregnancy, gestation cannot justly be considered to contra-indicate treatment; on the contrary, a judicious anti-syphilitic course may preserve the life of the fœtus. Only when confinement is very close at hand may it be more judicious to employ, for the time being, means which are merely palliative, not commencing the radical treatment until after the end of childbed.

"That mercury exerts an injurious influence on the fœtus is true only in so far as it perhaps somewhat dwarfs its growth, while syphilis, on the other hand, destroys its life."

It is not advisable to employ either decoction of sarsaparilla or iodide of potassium in place of mercury during pregnancy, the stomach and intestinal canal being too irritable for these remedies; the latter of which might, in addition, exert a very equivocal abortive tendency upon the vascular activity of the uterus.

The mildest preparations of mercury are those best adapted to the pregnant condition; externally the mercurial ointment in small quantities, and blue pill or calomel, with opium, internally. The corrosive chloride may prove poisonous to the fœtus, and cause abortion.

If a woman suffer from primary sores on the genitals during the later periods of pregnancy, an attempt must be made to heal them if possible, in order that the child may escape infection during labor.

At the same time, irritating or corrosive applications should not be made, preference being given to such mild agents as lime-water, lead-water, or a decoction of cinchona combined with a little sulphate of zinc and opium, as powerful escharotics may readily induce abortion.

Condylomata seated in the mouth of the vagina require during the last three months a very cautious expectant treatment. They frequently grow with rapidity in this situation, obstinately resisting every remedy, and yielding only to cauterization, by which, however, the fœtus is not in the slightest degree benefited, and premature labor may be produced. During, or soon after childbed, these growths either die of themselves, or soon disappear under the topical employment of the *aqua phagædenica* of the older writers, or some other stimulant lotion. Both ulcers and condylomata should be touched during the progress of the labor with nitrate of silver, and coated with collodion or cerate; injections of oil should be thrown into the vagina, and the child should be most scrupulously washed, especially about the neck, where the skin is thin and exposed. Every excoriation upon its surface should be touched with nitrate of silver, and any subsequent infection from the mother should be most carefully guarded against.

The mother may be permitted to nurse her child for a few weeks, should it seem requisite, provided that her affection be of a mild form, and she be not otherwise incapacitated; for if her blood were capable of building up the fœtus to maturity, her milk ought to be fit to nourish it. As a rule, however, artificial nourishment is to be preferred after the third week.

Should a mother affected with constitutional syphilis be unable to nurse her child, on which naturally rests a suspicion of syphilitic taint, it must not, even though apparently healthy, be given to another woman to nurse, inasmuch as the congenital affection often does not make its appearance until quite late, and may infect the nurse through the nipple. If, however, a nurse be found willing to run the risk of infection from her apparently healthy charge, and to undertake the business of suckling it, it becomes the duty of the physician to acquaint her with all the possible consequences that may result from such a course. The children of women affected with syphilis or condylomata must generally be artificially nourished, whether at home or in foundling hospitals, and for this purpose cow's milk answers every requirement. Only in the case of very puny children will it be necessary to keep a goat. The mother should be subjected to an anti-syphilitic treatment during lactation, in order that the taint may at the same time be eradicated from the nursling.

Inunctions of from five to ten grains of mercurial ointment on alternate days are well adapted to the treatment of the child; or, should it present actual ulcerations upon the surface, the sixth of a grain of blue mass in some mucilaginous vehicle, or still better, the third of a grain of calomel, may be administered daily until the disappearance of the affection, and then suspended for a considerable length of time, in order to avoid its more advanced results. The painful ulcers will heal very rapidly under the use of frequent applications of *aqua phagedænica*,* with opium.

If habitual abortion results from latent syphilis on the part of one of the parents, the suspected party must be subjected to a mercurial course. In subsequent pregnancies, mature and vigorous children will generally be produced as a result of this mode of treatment.

External Fistula of the Stomach, and its Surgical Treatment. By Prof. Middeldorpf. (Translated and condensed by C. A. Hartmann, M.D., Cleveland, Ohio.)

External fistulæ of the stomach may be epigastric, hypochondriac, umbilical, etc., according to the region in which they open. They are direct or indirect, according to the character of the communication established. A preternatural fistula results from disease, wounds, etc.; an artificial one is made intentionally by the surgeon.

This affection is not of very frequent occurrence; only forty-seven cases are known, besides one observed by the author. The age of the patients varied from nine to eighty years. In regard to sex, there were twenty-one males and twenty-four females. The causes are either external—mostly wounds, or swallowed foreign bodies—or internal: carcinoma, inflammation or abscess of the stomach. The external opening is usually in the umbilical, left hypochondriac or epigastric region; but may be between the ribs, or near the xiphoid cartilage. Internally, the fistula opens more frequently into the left than into the pyloric part of the stomach. In extent, there is a variation for the external opening from a few lines to several inches. Its edges are usually thick and rounded, but not covered with mucous membrane. It may be of a round, oval, angular, irregular or slit-like shape. The surrounding parts are thickened, excoriated, scarred, callous. Complications are: secondary passages, prolapsus of the stomach, caries of the ribs, ossification of the intercostal spaces, etc. A direct fistula has a short course; occasionally it runs obliquely, then usually from the right to the left side, or it is divided. Indirect fistulæ are of different length, width, and direction; frequently bag-like.

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* Aq. phagedænica is a solution of chloride of calcium, holding in suspension a small amount of bichloride of mercury.

Symptoms.—The contents of the stomach appear at the external opening either instantly after the infliction of a wound or other injury, or subsequently to inflammation, etc.; or after the protecting scab is detached. In cancer and abscess of the stomach, long-continued sufferings, with or without vomiting, precede the formation of the fistula; finally, a tumor appears, breaks and emits the swallowed food, either along with the pus, or afterwards.

The diagnosis is to be based upon the symptoms just enumerated, the locality and direction of the opening, and the free movement of an introduced probe in a large cavity.

The prognosis is not entirely unfavorable, as the disease may exist for twenty or thirty years without seriously interfering with health. Finally, however, the stomach is apt to contract and disturb digestion by its great irritability. Death may ensue from exhaustion, hectic fever, or consumption. Two-thirds of all the cases reported were not cured—probably in consequence of their having been established too long.

Treatment.—For the sake of prevention, wounds of the stomach must be united, if possible, complete rest enjoined, and an antiphlogistic treatment employed, combined with slight pressure. A forming abscess is to be matured, opened, and cauterized with nitrate of silver. The patient must lie quietly on his back, and take but little, not irritating, nourishment. Gastritis should be treated on the same principles, with due regard to ulceration, if present, and great attention for a long time. Extraneous bodies perforating the abdominal walls from within the stomach are to be cautiously extracted. To make incisions for that purpose is dangerous, on account of the frequent and extensive adhesions; unbloody dilatation of the existing abscess seems preferable. Suppuration ought to be encouraged, the free discharge of the pus attended to, and the lunar caustic applied subsequently.

A recent fistula may be closed by a strict horizontal position of the patient, little nourishment, tonics, incisions of the undermined integument, cauterization, and slightly irritant dressings.

The general treatment is indicated by the circumstances of the case. Excoriations around the opening are prevented by horizontal position, frequent washings, powdering over with magnesia, slightly astringent fomentations, lead-water, nitrate of silver, covering with gold-beater's skin, collodion, or glycerine. A slight pressure by means of sponges, pads, etc., is usually of good effect.

The fistula has been closed with girths, straps, compresses, German tinder, obturators made from acorns, cork, or silver, adhesive strips and other plasters. Of better service are small cushions of india-rubber, filled with air, or of elastic leather, held in position either by a steel spring or elastic straps.

The patient must eat and digest in a horizontal position. He should have a good nourishing diet, avoiding irritants, eat little at a time, chew and salivate well what he eats. Hunger increases the pains. If a meal is followed by great distress, the bandages should be loosened, and the food allowed to pass out.

Prolapse of the stomach is difficult to return. The only remedy is to reduce the size of the fistulous opening.

For a radical cure, horizontal posture and a proper diet are indispensable; under their influence alone some cases of several years' standing have got well. Dieffenbach applied, repeatedly, a cone-shaped hot iron. Other methods of cauterization might be employed; but they are only proper for narrow passages. Plastic operations have been recommended by Bérard and Wernher. The general principle is either to cover the opening with integument, or close it by insertion. Though usually not dangerous, such interference is only practicable in a slit-like, or small, round fistula. Paring of the edges may do for a fistula in the soft abdominal integument, but then the incisions should be as deep as possible. The bleeding surfaces are united by the common suture, and this is not to be removed for a long time. Of course, the stomach should be empty. Morphia, ice-pills, slight pressure, cold applications, strictly horizontal position.

Transplantation requires movability of the cutis. This is obtained by lateral incisions and undermining of the flaps. A third method is to pare the edges and transplant a cutaneous bridge, formed by an incision below and parallel with the existing opening. This plan was adopted for the cure of a fistula of seven years' standing. For twenty-seven years previously, the patient, a woman, had been suffering from obstinate, violent pains in the left hypochondriac region, probably due to inflammatory affection of the left side of the stomach. An accidental pressure on that region, twelve years after the beginning of the trouble, resulted in a tumor; in the course of the next eight years, an abscess, and finally a fistula, formed; the latter opening between the cartilages of the sixth and seventh ribs, nearly below the mamma, about an inch in width, three inches in length. A palliative treatment proved of little avail. The fistula having been filled with compressed sponge, a parallel incision was made, the flaps separated and undermined, then the edges of the fistulous opening pared off and united by twisted sutures, while the gaping lower incision was to some extent closed by a simple knot. The introduction of a plug of lint served to deviate from the original opening whatever might be thrown out by the stomach. Under a judicious subsequent treatment, the tormenting pain soon decreased. The needles and the plug could be removed in a few days, and in about six weeks the lower wound had completely healed by granulation, after its having been repeatedly touched with nitrate of silver. A few weeks later, a very small opening appeared in the scar. It emitted nothing but air, and there being no trouble except when this outlet became blocked up, all attempts to close it were relinquished. For nearly two years afterwards no further change occurred, only in coughing a little food passing out. The pain, considerably diminished, occurs only once or twice during the night; and on the whole, although not completely cured, the case is greatly improved.—*Wiener Medizinische Wochenschrift.*

MONTHLY SUMMARY OF DOMESTIC MEDICAL LITERATURE.

By T. Gaillard Thomas, M.D.

11. *Exsection of Knee-Joint in consequence of Disease of Bone caused by a Gunshot Wound.* By E. S. Cooper, M.D., of San Francisco. (Cleveland Medical Gazette, Oct., 1861.)
12. *Poisoning by Belladonna—Recovery.* By Dr. Samuel Willey, St. Paul, Minnesota. (Ibid.)
13. *Pus-Corpuscles in the Air.* By Dr. Eiselt. (Pacific Medical Journal; from Boston Medical and Surgical Journal.)
14. *On the Communicability of Secondary Syphilis.* Report of the Brooklyn Medico-Chirurgical Society. (Medical and Surgical Rep., by Pacific Medical and Surgical Journal.)
15. *Clinical Report on the Treatment of Phthisis by the Chlorate of Potassa.* By Dr. Austin Flint. (American Journal of Medical Sciences, Oct., 1861.)
16. *Experimental Researches on Points connected with the Action of the Heart, and with Respiration.* By Austin Flint, Jr. (American Journal of Medical Sciences.)
17. *On the Formation of Knots on the Umbilical Cord.* By Wm. Read. (American Journal of Medical Sciences.)

18. *On Veratrum Viride as an Arterial Sedative.* By Drs. Cutter, Rickard, and Ingalls, Committee, Middlesex Medical Society.
19. *On the Detection of Strychnia as a Poison, and the Influence of Morphia in Disguising the usual Color-Test.* By John J. Reese, of Philadelphia. (Ibid.)
20. *Summary of the Transactions of the College of Physicians of Philadelphia.*
21. *Case of Coccyodynia Cured.* By Dr. Godfrey, of Sonora.
22. *Transactions of Medical Societies of Buffalo.* (Buffalo Medical and Surgical Journal.)
23. *Extracts from American Druggists' Circular.*
24. *A Singular Case of Sudden Death.* By A. N. Allen, M.D., Pittsfield, Mass. (Berkshire Medical Journal, October, 1861.)
25. *Poisoning by Corrosive Sublimate.* By Dr. Cabot, of Boston. (Medical and Surgical Journal, October 17, 1861.)

11. At time of operation a probe would enter the substance of the bones very readily for an inch or more. After the removal of the joint the wound healed readily by granulation, and in three weeks patient moved about on crutches. "No pain or trouble of any kind occurred after the operation." In three months patient went from San Francisco to Philadelphia, and in six months Dr. C. heard from him that he was quite well and engaged in business.

12. A very interesting case, occurring to the son of the reporter, who ate, by mistake for liquorice, between thirty and thirty-five grs. extract belladonna. The child was a little boy, but curiously, his age has been omitted in the report. The poison showed its effects by unsteady gait, dilated pupil, wild and gay delirium, and the usual sighs; these continued after free emesis, which was practiced half an hour after it was swallowed. An enema of tr. opii, gtt. xij., and a dose of ℥ij. olive oil, together with coffee and vinegar and water, were given, while the cold douche, cataplasms of mustard, and other external means were employed. All these means signally failed, and at 4 a. m. of the 24th (the poison was taken at 6 p. m. on the 23d) the child was comatose, pulseless at the wrist, and insensible to pinching, pricks of pins, and other disturbing influences.

At this juncture, Dr. Hand suggested sending for a galvanic battery, which I had given an asthmatic patient some two years before, and trying that. In fifteen minutes or less the battery was in operation, and the strongest possible shocks administered over the regions of the thorax, neck and spine particularly, for four hours, without intermission. For three hours the only beneficial results were a slightly better color, less cold perspiration about the forehead, and somewhat increased warmth about the extremities; pulse a shade fuller. At the expiration of the fifth hour, he would sometimes start suddenly upon the reapplication of the poles of the battery, if they were momentarily withdrawn. An hour after, would change his position slightly; and eight hours after the first application, uttered an irritable cry, and would make awkward attempts to thrust them aside. For six hours longer, making fourteen hours in all, were the shocks continued, at intervals of from twenty to forty-five minutes—their use determined by the stupor. During the night of the 24th, coffee and beef-tea were administered, ice inclosed in a linen rag frequently applied to his lips and tongue; late in the evening he had two or three bilious and very offensive dejections.

Not the slightest contraction of the pupils occurred until twenty-two hours after the accident, and then but slightly. Thirty-six hours after poisoning, the left pupil was perceptibly smaller than the right. He then saw, when aroused and interrogated sharply, objects double; for instance, two papas, two mammas, etc. This gradually passed away, however, and his recovery from the morning of the 25th is without especial matter of interest.

13. Dr. Eiselt, wishing to discover how infection takes place in purulent ophthalmia, where no contact had taken place, fixed between the beds of two of a large number of children thus affected an "aeroscope," discovered by Pouchet, which detects the presence of pus or other globules, by "driving a certain quantity of air across a glass plate moistened with glycerine, upon which the particles of dust and microscopic forms remain fixed, and may thus be readily examined by the microscope." The presence of pus-globules in the atmosphere was thus determined, and it was deduced by those experimenting that by this means infection in this class of cases occurs.

14. A young physician, W. R., offered himself to the interest of science as a subject for syphilitic inoculation. He was at the time twenty-four years of age, healthy and robust, and never before infected with the disease. One of Wallace's methods was employed. By means of a small vesicatory, the cuticle upon the left arm was raised, the vesicle opened, and under the epidermis, on the 5th of January, 1852, matter inserted, taken from acne pustules in the frontal and superciliar region.

Jan. 10th. No local effect; the blister is healing in the ordinary way.

Jan. 20th. Soon after the wound had healed, a papulous eruption appeared, accompanied with itching over the whole arm, as is not seldom the consequence of cutaneous irritation by blisters; the symptoms passed off spontaneously.

On the 28th of January, a new irritation, redness and itching at the vesicated place was observed. On that day the redness was of a dark and coppery shade, and the vesicated place firm and infiltrated, more especially at one of the lower angles. At the same time some tuberculous eminences were recognizable. No pain.

Feb. 10th. The vesicated place was covered with reddish-brown, firm tubercles, grouped and covered with thin scales. Those that first appeared had thicker and darker scabs, from the exsiccation of matter superficially formed

Feb. 18th. (Forty-second day of inoculation.) Some of the tubercles much larger, projecting more, and are covered with laminified scabs, resembling those of rupia. Below them there is suppuration. The cutis yet firm and infiltrated, particularly towards the margins of the vesicated spot. Some tenderness along the ascending lymphatics; some axillary glands painfully swelled.

An attempt was made with iodide of mercury (10 grains to the ounce) to subdue the apparently still local symptom, and in the beginning the attempt seemed to be successful. The tubercles grew rapidly smaller. The firmness of the skin evidently changed its consistency. At the end of a fortnight only the larger tubercles remained visible. After the ointment had been for some time discontinued, a new increase of the symptoms took place on the 14th of March, being the seventieth day after the inoculation. The infiltration increased again, and luxuriant but dry tubercles sprang up. Another attempt was made to arrest the constitutional invasion by applying a paste of chloride of zinc and starch. The slough removed the affected portion of the skin, and its detachment was accompanied by copious suppuration and healthy granulations. The cicatrization soon followed.

June 12th. Up to this day, which is the one hundred and fifty-ninth after the inoculation, and the one hundred and thirtieth since the first appearance of local symptoms, the patient had been constitutionally well. But now a general feeling of indisposition began, with a moderate gastric derangement, headache, and want of sleep. A week later a spotted redness about the tonsils and soft palate was noticed, which were soon covered with grayish white, apparently granulated exudation. Eventually, those spots ulcerated. A similar change was noticed also inside of the lower lip; another on the left of the frenulum linguæ. The cervical glands were swelled. At a still later period, the scrotum became the seat of red infiltrated, secreting, superficial rhagades, (tubercles muqueux.) A treatment with corrosive sublimate and proper diet effected in a few weeks (15th July) a cure, and up to the 20th November no manifestation of further trouble appeared.

15. Dr. Flint carefully reports fourteen cases of phthisis, in which the use of the chlorate of potash was impartially tried as a remedy. He concludes as follows:

1. Of fourteen recorded cases of phthisis, in which the chlorate of potassa was given in sufficient doses, (℥ss. *per diem* in eleven, and ʒiij. *per diem* in three cases,) and for a sufficient period to test its remedial power, in nine the histories afford no evidence of any salutary influence from the remedy; in four cases the circumstances render it doubtful whether much, if any, influence was fairly attributable to the remedy, and in one case only is there room for the supposition that the remedy was highly beneficial. These cases, therefore, fail to furnish proof of any special efficacy in this remedy to arrest or retard the progress of the disease.

2. Inasmuch as in all these cases, save one, the quantity of tuberculous deposit was large or abundant, and in nearly all the disease had existed for a considerable period, it remains to be ascertained by further clinical researches whether different results may not be obtained by the use of the remedy in a series of cases in which the quantity of deposit is small and the previous duration of the disease short. In collecting such cases, accuracy of diagnosis is, of course, essential, and this can only be secured by the evidence afforded by physical signs in conjunction with the previous history and present symptoms. It may be added, in arriving at the conclusion that this remedy possesses no special influence in phthisis, it does not follow that it is not in a certain number of cases useful. By a special influence is meant a power to control, to a greater or less extent, the pathological processes which belong to this disease; a remedy may fail to do this, and yet be beneficial, as are a diversity of tonic remedies in cases of phthisis.

3. The chlorate of potassa may be given in cases of phthisis to the extent of half an ounce *per diem*, with entire impunity, and without occasioning any unpleasant symptoms. It does not produce diarrhœa, and may be well borne when diarrhœa is present in cases of phthisis.

16. This is an elaborate and highly creditable essay, but of such length that our space admits nothing more than a *résumé* of the results deduced from the experiments performed by the author.

Résumé.—In the foregoing essay, I conceive that I have established the following facts, which are either not generally admitted or not understood by physiologists:

First.—That the heart elongates during the systole of its ventricles.

Second.—That the cause of the rhythmical contraction of the muscular fibres of the heart is resident in the fibres themselves, is one of their inherent properties, and remains so long as they retain their "irritability." That it is derived neither from the cerebro-spinal nor sympathetic system of nerves.

Third.—That the natural stimulus which excites the regular and effectual movements of the heart is the blood, and that this cannot be replaced by a fluid of less density.

Fourth.—That though the flow of blood in the cavities of the heart is sufficient to induce, under ordinary circumstances, regular contractions of the organ, still it is necessary that these movements be further regulated and controlled; and that this is effected through the agency of the pneumogastric nerves.

Fifth.—That the action of the heart may be arrested, through the motor filaments of the pneumogastric nerves, by means of galvanism; that this does not take place in animals poisoned by woorara, on account of the paralysis of the motor nerves. That the motor filaments of the pneumogastrics are the last which are affected by this agent, and that in the alligator they are left almost intact. That the cause of the arrest of the heart by galvanization of the pneumogastrics is the exaggeration of the force which regulates the action of the heart, rendering it slower and more powerful.

Sixth.—That in asphyxia, the cause of the arrest of the action of the heart is overdistention of its cavities; and that anything which brings about a sufficient amount of distention will equally arrest the action of this organ.

Seventh.—That the auriculo-ventricular valves are closed by a backward pressure operating during the contraction of the ventricles, and not by the current of blood from the auricles to the ventricles.

Eighth.—That the excitation which gives rise to the reflex phenomena of respiration is received from the general system, and not from the lungs or heart. That this excitation is due to the want of oxygen in the tissues, and not to stimulating properties in the venous blood. That the exaggeration of this excitation constitutes the sense of suffocation, and gives rise, if excessive, to general convulsions.

17. Obstetric writers, with very few exceptions, have attributed the formation of the knots which are occasionally found on the umbilical cord, at birth, to a change in position of the fœtus while in the uterus. This may take place either from its own movements, or from

some movement communicated to it by the mother. In this way, passing through a loop of the cord, it forms the knot, which may be tightened by the further gyrations of the fœtus, or remain loose till delivery. Practically the subject is of no importance. The very nature of the complication effectually prevents any measures to protect the fœtus from the dangers which may arise if the knot should tighten. But while granting all this, and admitting that nothing we can do will prevent their occurrence, it may be well to examine into the evidence upon which the general belief, as to their formation, is based; to determine whether it rests upon good foundation, or is one of those fallacies, so many of which, like the rubbish which disfigures the proportions of many a stately fabric, are to be found in the writings of obstetric authors, and which have been handed down from one generation to another, and passed current because they have never been questioned.

After a course of reasoning to prove that it is irrational to suppose that these knots can, with impunity, occur before parturition, and an examination of the evidence on the subject possessed by the profession, the Doctor ends thus:

If the argument thus set forth is sound, and a case does not occur in which, while yet in utero, a knot is found tied upon the umbilical cord, and of which, so far as any records at hand have been consulted, no instance has been found, the opinion held by many members of the profession as to the mode in which they are produced is erroneous, and the only way they can be tied, and the time when they can be formed, must be by the passage of the child through a loop of the umbilical cord lying around the os uteri when it is ushered into the world.

18. The conclusions of the Committee, which were arrived at, evidently after great labor and research, and after comparing the experience of a number of physicians who had, at their request, experimented with, are, that the veratrum viride is one of our best (if not the best) arterial sedative.

The time has most surely gone by when the value of the veratrum viride, as a medicinal agent, is to be regarded as hypothetical. It has been used by thousands of physicians fully competent to make observations with discrimination and sound judgment. The strongest and most conclusive testimony relative to its great value comes from those who have used it the most, and who are, therefore, the best prepared to express an opinion.

Some of them feel as though they could not get along without it, especially in view of the fact that with it they have saved patients whom they think they must have lost without it. But there are others who will not believe in its value, and make a fair trial of it. They either sneer at it, or pretend to be afraid of so potent an agent. And yet, among all the cases that have been recorded throughout this whole country, can a single instance be mentioned where serious harm has been wrought by its use? Of which of our other potent remedies can this be said? The failure or success of this or any other medicine, in a single case, proves nothing for or against it. It is the result of repeated trials that is to establish its value and certainty of action. Nevertheless, there are men who, having used it with trepidation and misgivings in one or two cases, without seeing the effects ascribed to it, have thrown it aside, and pronounced it worthless. But it matters little who now remain skeptical in respect to the great value of the veratrum viride as a medicinal agent. It has been used extensively, and has vindicated the reputation given it, to the satisfaction and admiration of intelligent men all over the country, and supplied a want that nothing hitherto has done.

The chief diseases in which it was employed by those reporting in answer to the request of the Committee, were—pleurisy, pneumonia, scarlet and remittent fevers, measles, asthma, convulsions, ovaritis, metritis, affections of the breasts, and, in fact, in most of the cases in which excessive heart action indicated a sedative or relaxant.

We know very well that there are cases where it fails of producing the ordinary good results to be expected from it; but this militates nothing against its value. The same is true of all our most prized remedies. Why, then, should any one throw the veratrum aside as worthless, because it did not do all he anticipated in the first or second trial? The fault may have been in some idiosyncrasy of the patient, or in an inadequate dose for that particular case. Were there no exceptions, did the medicine *never* fail, it would indeed be a specific. But the experience of the whole medical world tells us that no specific has as yet been discovered, and it is foolishness for any one to expect that there ever will be. A use of the article will show that it is as certain of producing its peculiar effects as calomel, or any other agent of the materia medica.

The preparation employed was the tincture, and the dose for adults generally five drops, repeated about every three or four hours. The following are some of the cases given in illustration of its action by those replying to the Committee:

By Dr. Ruppaner, of Boston:

"CASE II. A merchant, aged twenty-two years, with advanced phthisis. Had had repeated attacks of hæmoptysis. Pulse 118–120 per minute. With five drops of the tincture of veratrum viride, thrice daily, the pulse was reduced to 85 per minute, and kept there steadily day after day. Continues the veratrum daily.

"CASE III. A little girl, aged one and a half year, had whooping-cough, followed by pneumonitis. One drop of the tincture of the veratrum viride, given every four hours, succeeded admirably.

"CASE IV. An infant of eleven months, had scarlatina. During the febrile stage, one drop of the tincture of the veratrum viride, with syrup of squills, four times daily, reduced the pulse readily."

Dr. Allen, of Cambridgeport, says:

"In all cases I order small doses much diluted, every hour, until the arterial action has very much lessened, and for three reasons: 1st, it is more willingly taken, especially by children; 2d, less danger of overdosing exists; and 3d, very much diluted it is more readily absorbed and more quickly effectual."

Dr. Otis E. Hunt, of Weston, regards it as a valuable medicine. His manner of using it has been to give five drops of the tincture every thirty minutes till the pulse fell. He says a few drops would sometimes accomplish the object, and at other times a half dozen would be required. He has found it very apt to produce nausea.

Dr. Enos Hoyt, of Framingham, writes that he has used the veratrum viride in the apoplexy of aged people and those of enfeebled health, and finds it better than blood-letting, as the recovery is better. Has given as high doses as twenty to forty drops in four cases that came under his care, which resulted in recovery—which was heroic treatment. He thinks he has derived much benefit from its use in scarlatina, and he learned while at the South that the physicians there were using it with good results in the same disease. Where arterial excitement needs reducing it is decidedly better than digitalis. He says he likes it in measles, pertussis, and parotidea.

19. This article is devoted to proving by the evidence of experiments that the salts of morphia, in combination with strychnia, prevents the color-test from being effectual; that this depends upon the relative quantities of the two alkaloids, (*e. g.*, the strychnia being not discoverable when the morphia is in excess, and barely discoverable when in equal quantity;) and lastly, the extraordinary delicacy of the color-test when not interfered with by the presence of morphia.

The next point to be briefly noticed is the extraordinary *delicacy* of the color-test. It is this which gives to it its chief value. As the result of a great number of experiments made for this purpose, I have been enabled to detect with distinctness a smaller quantity than the *half-millionth* part of a grain, (the precise amount was the 1–672,000th of a grain;) and on some occasions, when experimenting on as minute a portion as the *one-millionth* of a grain, I have obtained a momentary flash of the peculiar blue color—faint, to be sure, but to the practiced eye positive and real.

It is to be understood that these minute quantities of the poison can be discovered only when it is in the pure state, and free from all other organic admixture. Of course it would be in vain to attempt to detect anything like such infinitesimal portions in mixtures like the contents of a stomach. But, as I have already shown, there is no difficulty of discovering as small a quantity as the *one-hundredth of a grain*, (and doubtless even less,) when diffused in a pint of complex organic mixture.

I will add a few words in relation to the best mode of proceeding, when we desire to test for extremely minute portions of pure strychnia.

A solution is first made of any given quantity—say one-tenth of a grain in a fluid ounce of distilled water, with a few drops of acetic acid to insure solution. The number of drops contained in the portion of liquid is to be ascertained by means of a pipette, prepared by drawing out a glass tube to a fine point. The solution may then be diluted to any degree required. One drop of the liquid, representing the ascertained fractional part of a grain, is then to be placed upon a small, perfectly clean, white porcelain capsule, and evaporated to dryness, either in the sun or by a very gentle heat. When cold, a drop of pure sulphuric acid is to be placed, by means of a glass rod, on the capsule alongside of the dry spot, but not in contact with it. Next, a small crystal of bichromate of potassa (or, preferably, of ferrocyanide of potassium) is to be laid on the dish; after which, a clean, dry, and finely-pointed glass rod should be drawn through the drop of acid, so as to bring a very little of it in contact with the spot; the little crystal is next to be moved by the rod once or twice over the moistened spot, when there will immediately appear, flashing out, as it were, the characteristic blue color—more or less transient, according to the amount of the alkaloid present, and passing through the usual tints.

With reference to the strychniascopic qualities of the frog, Dr. Reese says:

In experimenting with frogs with a view to determine the presence of strychnia in minute quantities, it is advisable to make use of very small animals—those, for example, whose bodies measure from an inch to an inch and a quarter in length, and which would weigh from twenty-five to fifty grains. The simple method which I adopted, and which I found to answer extremely well, was to put a small quantity of the strychnia solution—about a fluid drachm, or even half that quantity—into a deep conical glass vessel, such as an ordinary pint graduate measure, and then place the frog at the bottom. The shape of the jar insures the required immersion of the hind legs and body of the animal in the liquid, while the head remains perfectly free for breathing. Any efforts to escape are usually prevented by the sides of the vessel; or, if necessary, it should be pushed down again into the fluid—the object being to insure continuous contact. The subjoined experiments were undertaken by me with the two-fold view, first, of comparing the value of the frog-test with the other strychnia tests; and secondly, of ascertaining if the presence of morphia would produce any modification of the usual effects of strychnia on the frog.

Experiment 1. A frog weighing 45 grains was put into a solution of strychnia, one drop of which contained the 1-13,500th of a grain—(equivalent to about one grain in twelve fluid ounces.) Convulsions were produced in four minutes.

Expt. 2. A solution of one-half the strength of the preceding (or one grain in twenty-four fluid ounces) affected a frog weighing 40 grains in five minutes.

Expt. 3. A solution of one-half the strength of Expt. 2 (or one grain in forty-eight fluid ounces, or three pints,) produced spasms in a frog weighing 28 grains in five or six minutes.

By bringing to his aid the sensitive nervous system of these little animals, he was able to detect the presence of the *half-millionth of a grain* to each drop of water used in the experiments; and one advantage possessed by this test is, that the presence of morphia does not interfere with it.

20. *Fatal Parturition from Inertia of the Uterus—Fœtus not delivered.* —Dr. Corse read the following note of this case, and exhibited the fœtus and its membranes with the uterus: Mrs. A. P. was taken in labor at a period which she supposed to be the close of the eighth month of pregnancy.

The uneasy feelings usually preceding labor began gradually, and continued for several days, without any increase of the pain or uterine contractions. She at length began to feel spells of sinking and prostration, which were at first slight and of short duration, but gradually became more marked and of longer continuance; their recurrence also became more frequent. No hæmorrhage whatever took place, not even the usual amount which sometimes constitutes the *show* of obstetricians. I was sent for in consultation; but a few minutes before I arrived, one of her sinking spells came on, in which she expired.

Her color at that time was exceedingly pallid. No patches or spots of purple or deep red appeared, as in cases of purpura and some other diseases, incident to a low state of the system. The body was plump, and the skin free from the shrunken and wrinkled state which it presents sometimes in cases of death from extreme prostration or exhaustion. She had had no diarrhœa or other exhausting discharge. A moderate quantity of food had been taken daily, and she had had a tolerable amount of sleep in short naps, but no long or refreshing sleep at any one time for several days.

The emotional system being depressed, for some weeks before her death she had been laboring under dejection of spirits. No good reason could be given to account for this, and we are left to suppose it to have been, for the most part, due to the remembrance of a former labor about two years before, from which she narrowly escaped with her life. In that labor she had had a placenta prævia, and was reduced by the hæmorrhage to the last extremity, and lay many hours after delivery before reaction could be brought about. I was with her on that occasion, in consultation, and delivered the infant by version from a vertex presentation to a footling. Soon afterwards some of her lady acquaintances very indiscreetly predicted that, if she should ever become pregnant again, she would surely perish in the delivery. It is not positively known that this preyed upon her mind, but she was meditative in her character, and of taciturn habits. No other cause for depression of spirits is known to have existed.

Permission for a *post-mortem* examination was obtained, in hopes of finding some other cause of death, but our expectations were disappointed.

Case of Cold-Stroke.—Dr. Henry Hartshorne gave a brief account of a case of fatal illness following sudden exposure to cold for a short time.

J. S. H., aged 14, previously in ordinary health. On the night of the 7th of February, (on which day the thermometer had gone down nearly 50° Fahr. in twelve hours, with the rise of a piercing wind,) he rose from his bed in the back chamber of a large house, and went, barefoot and in his night-shirt, to the window of the adjoining front room, which he opened and stood by for a few minutes, looking out, on account of an alarm of fire. Being thus thoroughly and suddenly chilled, he had some symptoms of indisposition the following morning, but became more ill as the day advanced. Dr. H. H. saw him about 5 P. M.; at which time he was suffering with headache, drowsiness, and vomiting; the skin moderately hot; the pulse hard and accelerated. A saline laxative had produced two evacuations of the bowels. Fourteen leeches were directed to be applied to the back of his neck, cold cloths were placed upon the forehead, and the solution of citrate of potassa was prescribed.

At about 4 o'clock of the succeeding morning he died. A *post-mortem* examination could not be obtained.

After careful inquiry, it was impossible to discover any probable cause for this sudden and rapid illness except his exposure, upon leaving a warm bed, to the piercing wind of a cold winter's night.

Probably the rapid and extreme change of temperature disorganized the minute elements of important structures, especially of the brain; in a mode analogous to that in which congelation, especially when suddenly succeeded by the thawing process, destroys the vitality of plants.

21. A few weeks ago I met with a case of coccyodynia of ten years' standing, in a woman about thirty-two years of age. She suffered very severe pains in the region of the coccyx, whenever she attempted to sit down or to resume the erect posture, or to walk about. She could not lie down in bed or rise from it without the assistance of some one of her family, nor was she able to sit down on and to rise from a chair without taking hold of the back of the chair or some other object. Still, the least painful posture for her was to keep bent to a certain degree, as if in the act of sitting. While sitting on a chair and lying on her bed, she experienced a very disagreeable, dull, burning, and prickling sensation, which was frequently unbearable. She suffered excruciating pains when her body was swayed from side to side; the gluteal and coccygeal muscles of both sides seemed mostly to trouble her, but especially on the right side, to which the coccyx was somewhat drawn. She dreaded to sit down, and dreaded to rise up—dreaded to get into bed, and dreaded to get out of it. As she did not complain when her bowels were being moved, the tendons of the sphincter and the fibres of the levator ani did not appear affected; the disease seemed to be mostly confined to the gluteal and coccygeal muscles, and also perhaps to the sacro-sciatic ligaments, which produced traction. The patient states that she cannot tell

how the affliction came on, nor what caused it. She relates that she consulted a dozen of the best physicians in Tennessee, (where she used to live,) under whose treatment she successively was for a good while, without deriving any benefit from it, and finally they pronounced her incurable.

Whilst I was attending on a member of her family, she told me her affliction; and the symptoms of coccyodynia, as described in the lectures of Professor Simpson, which I had read in your *Monthly News and Library*, were so striking and plain in her case, that I offered to cure her. I proposed to perform the operation recommended by Professor Simpson, the isolation of the coccygeal bones from the surrounding tissue by means of a tenotomy-knife, (see *Simpson's Clinical Lectures on Diseases of Women*, Am. ed., p. 216,) to which she readily consented. I performed the operation on the 18th of April last. The relief was effectual, instantaneous, perfect, and I hope permanent. The wound is healed up, and she feels very well. The patient continues to be perfectly free of pains.

22. Drs. Rochester and Wyckoff each reported a case of acute rheumatism, terminating fatally from apoplectic coma. Dr. Wilcox stated that he had reported a similar case some time ago.

23. *Marine Baths for Scrofulous Infants.*—The administration of Public Charities of Paris, during the last summer, established an hospital for scrofulous children at Berck, on the English Channel. It is a structure built of wood, forming a parallelogram, opening on the sea, with a chapel in the centre. The number of beds is confined to one hundred, and the whole is under the surveillance of Franciscan Sisters, from Calais. Before being sent there from Paris, every child is properly examined, and ticketed with a history of its sanitary condition; and when about to return to Paris, the child is, in like manner, accompanied by a description of the treatment it has undergone.

The Lamp Bath.—The following is a very simple and most effectual method of exciting the functions of the skin. Let the patient, *in puris naturalibus*, be seated on a common wooden chair, with his feet upon a low stool, the body then enveloped in two or three blankets, the head being excluded, and a large spirit-lamp placed under the seat. In about a quarter of an hour, the perspiration streams down the skin. After a time the blankets must be removed, and the patient subjected to a douche of two pailfuls of cold water, and then dried with much friction; after which, a smart walk may be taken.—*Dr. C. Taylor.*

24. Miss E. B., aged 45, went to bed as well as usual on the even-

ing of December 31st, 1860. The next morning at six o'clock she wished her niece a happy new year, and was apparently well, but in half an hour afterwards she was found insensible in her bed, and supposed to be dead; was pronounced to be so by a homœopathic physician, who was immediately called. At 10 A. M. she was taken from the bed while still warm, attired in grave-clothes, and left lying in a room, the windows of which were left open, while the thermometer was below the freezing point, where she lay until 10 A. M. on the 2d of January, at which time I was called. I found the body still warm; the countenance like that of healthful sleep; the skin felt remarkably warm and life-like; the eye had the brightness of health; the jugular veins were gorged with blood; no rigor mortis existed; an indistinct fluttering could be scarcely perceived on placing the ear over the heart; no pulse existed at the wrist, nor in the temporal arteries, and no respiration could be perceived. I immediately placed her in a warm bath, opened the right jugular vein, from which the blood flowed freely; drew a half pint, and found it difficult to arrest the flow completely. She was taken from the bath and wrapped in flannel; friction was applied to the skin, and vessels of hot water to the extremities. Electricity and artificial respiration were employed, but our exertions could not arouse further signs of life.

Autopsy.—January 3d, at 2 P. M. Body still warm; rigor mortis slightly marked; odor of decomposition slight; the pneumogastric nerves were galvanized in extreme precaution, and the body opened. The brain was perhaps softer and yellower in tinge than normal, but no evident lesion existed. The longitudinal sinus was filled with fluid blood; the medulla oblongata was healthy; the larynx, bronchial tubes and tissue of the lungs were normal; the heart was healthy, except that the left auriculo-ventricular valve was thickened; the pericardium contained about an ounce of liquid; the liver, kidneys, stomach and intestines were healthy; a small fibrous tumor, about a half inch in diameter, existed in the posterior wall of the uterus; the ovaries were filled with small cysts. The most singular appearance was found in the spleen, in which the malpighian corpuscles had not disappeared, as is usual a short time after death, but were large and crowded, so as to give a whitish color to the section of the organ. The blood which had been drawn from the jugular vein the day before had not coagulated, but the corpuscles had subsided, leaving a layer of straw-colored serum above them.

25. The patient was perfectly conscious on her arrival at the hospital, and had strength enough to walk to the water-closet with but

slight assistance. She stated that she had been unwell for five weeks past, but did not describe her symptoms. The whole surface of the body and limbs, with the exception of the abdomen and inside of the thighs, was cold, but the patient complained of feeling hot, and of a burning pain in the lumbar region. Soon after her arrival she vomited some pure blood. As the girl seemed almost asphyxiated, Dr. Cabot was sent for, who opened the trachea, and inserted a large double canula, after which the breathing became perfectly free, and the pulse grew stronger and fuller. The patient now began to call for cold water in large quantities, and would almost refuse a smaller amount than a tumbler-full. After the operation, she continued to vomit, with much retching, bringing up a bloody-looking fluid. She likewise called for the bed-pan, and used it frequently during the night. The dejections were for the most part fluid, containing apparently blood, mucous membrane, and a thick scum. The dejections and matters vomited resembled each other, and were so peculiar that they were saved. The resonance of the chest was everywhere good, but sonorous râles were heard in all parts of it. The pulse soon began to fail again, and the skin grew more and more livid, until it became everywhere of a dusky hue, although the air passed in and out of the tube freely. She remained conscious till her death, at 10 o'clock, 25 minutes, A. M.

Autopsy.—Stomach moderately distended, somewhat œdematous, externally. Peritoneal coat shining and healthy. No perforation. The upper (œsophageal) portion of mucous coat, for the space of four inches in diameter, was of the same color as that of the œsophagus. The pyloric portion, particularly at the depending part of the organ, was thickened, of a dark-brown color, and traversed by numerous high rugæ. The mucous and submucous tissues were almost gangrenous, and very friable. The stomach contained about seven ounces of dark, reddish-brown fluid.

Small intestines of a very pale pink color, externally, but polished and glistening. The mucous membrane was reddened from the pylorus to the cœcum. The reddening was most marked near the pylorus, but there were occasionally spots the size of a dollar, of a brown color, and almost gangrenous. The mucous and submucous tissues were not, on the whole, much inflamed.

A Practical Treatise on the Diseases of the Sexual Organs of Women. By F. W. Von Scanzoni, Prof. of Midwifery and Diseases of Females in the University of Würtzburg; Counselor to his Majesty the King of Bavaria; Chevalier of many Orders. Translated from the French of Drs. H. Dorr and A. Socin, and annotated, with the approval of the author, by Augustus K. Gardner, A.M., M.D., Prof. of Clinical Midwifery and Diseases of Women in the New York Medical College; Author of the Causes and Curative Treatment of Sterility; Editor of Tyler Smith's Lectures on Obstetrics, &c. New York: Robert M. De Witt, pp. 669. 1861.

(Continued from October No., p. 297.)

Leaving these general considerations, we now arrive at the "Pathology and Therapeutics of Particular Affections of the Womb," and passing in review absence and malformation of this organ, (the former of which the author has never met with,) defects in development, constrictions and obliterations, atrophy and hypertrophy, we come to the important subject of flexions, to which alone thirty-four pages are devoted.

To the subject of flexion the author has evidently given much attention, and we lay the most interesting points of his publication on that subject before the reader in the following paragraphs:

The frequency of fibrinous adhesions attaching the flexed uterus to surrounding parts, led Virchow to regard peritonitis as the cause of the accident, the effused lymph contracting and drawing the uterus down. Scanzoni regards peritonitis as a consequence, and not a cause.

The ordinary seat of flexion is opposite the os internum; here in one case I found fatty degeneration of uterine structure; in two old women complete obliteration of cervical canal; in one menstruant woman almost complete closure; and in another ℥2½ of blood were found shut up in utero.

Premature labor or abortion are great causes of flexion; thus, in more than 22 per cent. of all his cases, it had occurred. Operative interference at full term is often called for in cases which afterwards suffer from it, and probably multiple pregnancy also.

Rising too soon after delivery is a great cause, as also too rapidly succeeding pregnancies. In fact, all the circumstances concomitant with parturition have a marked connection with the etiology of the affection, among which he enumerates, also, abstaining from suckling as of some importance in producing it, by reason of certain desirable changes in uterine contraction and involution not occurring as perfectly as they do when the mother nurses her child. Early marriages before the uterus has been fully developed, and external causes which result in depressing and cramping the organ, may likewise produce it.

Although the author admits that alterations in the uterine tissue result in serious trouble, he by no means regards the simple flexion of the organ as likely to give rise to alarming symptoms.

"So we are at present convinced that flexions of the womb do not acquire any importance, nor are followed by any serious dangers, save when they are complicated with an alteration in the texture of this organ.

"We know perfectly well that at present we are almost alone in professing this opinion. It is for this reason that we think it our duty to explain here in detail the reasons which have induced us to publish it."

His reasons for first doubting the old and accepted views were the fact that in menstruating females he found the organ completely flexed, without a single unfavorable symptom to proclaim the abnormal condition existing.

"This fact is notable proof of what we have advanced. Pure and simple flexion, without complicaion, may often exist, if not always, without any bad results to the health. A multitude of other cases have shown us that no special troubles, either general or local, are produced by this affection, except when to it is joined an imflammatory tumefaction of the body of the uterus, a well-marked relaxation and softening, with hypersecretion of the mucous membrane, deep ulcerations of the os tincæ, and repeated partial peritonitis.

"Further, the frequency of these complications of flexion must at first sight make it presumable that the latter favors these secondary alterations. In truth, we are convinced that every flexion, so soon as it has arrived at a certain degree and a certain duration, must necessarily occasion changes in the texture of the parenchyma and mucous membrane of the uterus. It is only thus that this anomaly of the uterus acquires, in a practical point of view, any great importance. The majority of authors seem not to have appreciated this fact at its just value."

This fact, extremely interesting in a pathological point of view, is not as important, practically, as one would at first suppose, for just afterwards the author admits that "flexion eventually, almost necessarily, induces alterations in the structure of the womb." That is to say, although flexion, pure and simple, does not produce annoying symptoms, it is "almost necessarily" followed by certain pathological conditions—engorgement, effusion into the uterine structure, erosions, and even inflammation.

In speaking of the means of diagnosis of this accident, he reiterates his aversion to the use of the uterine sound, and again signalizes its dangers. It should be employed, he thinks, only when all other means of diagnosis fail, and then "the sound ought in every case to recognize a flexion in the following manner:

"At the moment when the extremity of the instrument passes the place of the flexion, the organ is replaced and resumes its normal position, so that it escapes from contact with the finger, and the tumor which was perceived through the vaginal walls suddenly disappears."

Had the author not stated that he rarely employed the uterine sound, the fact would be very strongly suspected by any one who has used it frequently, by simply glancing at this passage. It may be true in theory that the sound "ought" to do this, but every one knows, who has much experience with it, that it does not do so, but that its direction has to be changed, until "*en tatonnant*" cautiously the course of the deflected canal is found; and then, too, it is by no means so easy, in every case, to replace the organ as one would be led to suppose by the passage we are considering. This view, founded upon theory, is so apt to lead a beginner into error; so apt to disappoint him with a useful instrument, that we notice its inaccuracy particularly.

Thus far in his very able dissertation upon Flexures of the Uterus, M. Scanzoni has expressed very fully all that is known and believed by American gynecologists, but here he ceases to do so; and we believe ourselves entirely within bounds when we declare that, in the treatment of that annoying and unmanageable class of affections, the daily practice of this city is capable of making valuable additions to his armamentarium.

"Flexions are among the most protracted and obstinate diseases of the womb. In spite of what many modern authors have said, we are persuaded that if what is called the powers of nature do not effect a cure, the malady will completely resist every form of treatment, whether medicinal or mechanical. For our part, we have never cured a flexion; when we have seen one disappear, it was not to our efforts that we could attribute this fortunate termination. And this does not appear astonishing when we attentively consider the causes and mode of development of this affection. Preceded and favored by a relaxation of the uterine parenchyma, it makes such slow and imperceptible progress, that it is not until it has attained a very considerable degree that it provokes symptoms sufficiently marked to be recognizable. Then the disease is constantly aggravated by the alterations of texture which occur to complicate it. According as the flexion increases, the uterine tissue of the concavity of the flexion grows thin and softens. By what means can a physician cause the anomalies of texture which we have described to disappear?"

Now, let us answer the question contained in the last two lines by another. Carious disease attacks a spinal vertebra, and it rapidly crumbles; "by what means can a physician cause the anomalies of texture we have described to disappear?" By applying, after the methods of Davis, Woods, and others, artificial support, leaving the weak part idle, and thus enabling it to recuperate. Thus, too, would we act, and thus have we often successfully acted towards the uterus.

But the author objects to intra-uterine pessaries, on account of their danger; so do we. To the experiments of Valleix, of Paris, to which he alludes, we were an eye-witness, and the result was to give us a great fear of that class of uterine supporters; but besides these he mentions no other, and this is the point at which we separate. There is a kind of pessary commonly employed in this city, and known, I believe, as Hodge's pessary, which consists originally of a ring of hard rubber, which, being heated in warm water, admits of being bent, so that one portion running up into Douglas's *cul-de-sac*, supports upon itself the flexed fundus, while the other presses against the symphisis. Or the instrument may be made of block tin, and bent so as to accomplish the end in view, at the same time that an indentation at that point where the urethra passes prevents obstruction of that canal.

Should the flexion be great, by altering the shape of this pessary it may in great measure be relieved in most cases; and should it be so slight that the instrument does not reach the flexed portion, according to the showing of M. Scanzoni himself, no evil symptoms will arise, and hence relief will not be called for.

But our author does not, while he distrusts mechanical means, advise an entirely Fabian policy; for although he thinks the employment of "internal medication of no efficacy against uterine disease proper," he asserts that "the cold douche, cold hip-baths, vaginal injections, lavements of ergot given two or three times a week, will be found useful in these cases. It will only be in exceptional cases, when the blennorrhœa of the cervical mucous membrane may be very intense, that recourse need be had to cauterizations by means of a stick of nitrate of silver introduced into the neck. In this manner, at the end of six or eight weeks, we shall generally succeed in very much ameliorating the condition of the uterine parenchyma, in such a manner that the abundant menorrhagia and the leucorrhœa shall either completely disappear, or at least be greatly diminished. If this should not be the case, we advise recourse to a procedure which may perhaps at first be thought to be very absurd, but which, however, has, on various occasions, rendered us most valuable services in menorrhagia; we refer to local blood-letting. Every week or two, three or four leeches should be applied to the os tincæ. The stasis of venous blood, which is the cause of the friability of the uterus, is thereby moderated; the circulation regulated, the absorption of the serous elements of the tissue diminished. Thus, the organ resumes in a little while more tonicity. We cannot too highly recommend this method, which numbers of times has served us in successfully combating a tendency of the uterus to hæmorrhage which had obstinately resisted every other mode of treatment.

"These emissions of blood have produced also the best results, when, besides a flexion of long standing, the uterus is more or less engorged and indurated. Their action is seconded by the use of hip-baths and injections of natural or artificial marine waters; they should be taken twice a day, and may be warm, if the flexion is not accompanied by profuse hæmorrhages, which in these circumstances are not uncommon; but should be cold, if the contrary is the case. Should the pecuniary circumstances of the patient admit, she may be sent during the summer months to take the baths at Kissingen, Kreuznach, Reichenhall, Ischl."

He likewise advises keeping the functions in proper activity, wearing an abdominal bandage, attending to nutrition, &c., &c.

The subject of Prolapsus Uteri is treated of very ably and completely; and special attention is given to the pathological condition of the displaced organ.

"Then, if the body of the uterus is opened with scissors, a considerable hypertrophy of the parenchyma of this organ is observed, and an attentive examination demonstrates here the same pathological alterations which we shall hereafter describe in speaking of chronic engorgement of the womb. The cavity itself is always considerably dilated, especially in its longest diameter, and the mucous membrane shows all the characteristics of chronic catarrh."

"In such cases micturition is often painful, and sometimes even it is not possible, except when the patient has with the fingers pushed back into the pelvis, and retained in this position the tumor situated in front of the vulva. Little by little the portion of the wall of the bladder directly behind the neck of this organ undergoes a depression;

it thus forms a furrow, in which, by reason of its dependent position, the urine is collected and decomposes; this irritates the mucous membrane, and often gives rise to a catarrh, or even to a croup-like inflammation, which extends over all the surface of the mucous membrane of the bladder and the urethra. This displacement of the bladder is recognized with certainty by introducing a male catheter considerably bent; in fact, when we wish to introduce it with the concavity upward, an obstacle is generally met with, while the catheter enters very easily when the concavity is turned downward and backward. The point of the instrument can then be perceived upon some spot on the anterior part of the tumor situated in front of the vulva."

The following are the causes of prolapsus enumerated:

Relaxation of ligaments, (especially after parturition.)
Relaxation of vagina.
Rising too early after labor.
Rupture of perineum.
Blows, falls, strains, &c.
Increased weight of uterus.
Increased pressure from above.

In differentiating prolapsus, he calls attention to the fact that it may be confused with hypertrophy and elongation of the cervix, of which he says in a previous part of the work:

" In certain cases, the os tincæ attains to the length of six inches and more; it then hangs outside of the vulva, and might, to a careless examiner, resemble a complete prolapsus of the uterus. It has the form of a cylinder or a cone, sometimes even of a wedge. Its surface is smooth, or covered with numerous little depressions of the size of a grain of millet-seed, with funnel-shaped openings penetrating into the depth of the tissue, where they communicate with little *cul-de-sac* cavities, of a variable size, and produced by an enlargement of the glandules. These cavities are generally filled with a gelatinous mucus.

"After the learned researches of Virchow, it is placed beyond a doubt that the presence of these glandular enlargements has an important influence in the development of the species of hypertrophy now occupying our attention. We have often observed this anomaly. In two cases of amputation of the hypertrophied portion, which were followed by a very copious hæmorrhage, we were able to convince ourselves of the accuracy of the assertions of Virchow, who says that the polypiform prolongations of the os tincæ are always very rich in arterial vessels. Very often the disease is limited to one of the lips of the orifice."

After the organ has been replaced, he advises the treatment of the cause of displacement, if it can be reached, and then, "As soon as the reduction of the uterus is effected, the next object is to retain it in its new position. For this purpose, different apparatus have been invented, known under the names of pessaries and supporters. But from frequent experience in such matters, we are convinced that none of these instruments are equally applicable in all cases, and that one will never be invented capable of fulfilling all these necessary conditions. One of the first reasons is, the different degrees of sensibility possessed by the affected parts in different individuals. In fact, while some tolerate without any inconvenience very hard instruments, compressing and considerably dilating the walls of the vagina, the introduction of a soft sponge dipped in oil is insupportable to others. Another reason is, that, in constructing instruments of this sort, the attention is ordinarily fixed on one only of the numerous causes of prolapsus, so that in cases where the malady proceeds from any other cause, the apparatus is unsuitable.

"On this account, we make it a rule never to lose sight of these two considerations in choosing an apparatus for the support of the uterus, and never to adopt one which would render difficult or impossible the use of those topical remedies which are so necessary to a permanent cure."

The pessaries advised by him are those of Roser, Zwanck, Schilling, and Gariel. The ring pessary of Meigs, the lightest and most effectual we have ever employed, is mentioned neither by the author nor editor.

In reference to cure by surgical means, the author is not sanguine, but mentions favorably diminution of the calibre of the vagina, by pinching or removing strips of mucous membrane. The French editors mention here the operation of amputation of the uterine neck, as practiced by Huguier, of Paris, in these words:

"It was M. Huguier, we believe, who first practiced amputation of the neck in a case of prolapsus. He starts from a pathological point of view, the justice of which we will not discuss, namely, that prolapsus is but very rarely a true descent of the womb, but consists almost always in hypertrophy or engorgement of the uterus, which, remaining in its normal position, augments in size, and not being able to spread itself in every direction, by reason of the neighboring organs, lengthens itself little by little, and at last obtrudes into the vagina.*

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* M. Huguier states that in the autopsy he has met with similar cases twenty-four times out of thirty.

Hence the idea of removing that portion of the neck that can be reached by simply separating the labia majora. The operation is extremely simple. We must, however, be careful not to wound the bladder or the rectum, and to disengage them before practicing the amputation. Furthermore, when the hæmorrhage is abundant, as is ordinarily the case, it will be necessary to apply some ligatures. M. Huguier at first employed a bistoury to cut off the portion of the neck which he wished to remove; but the abundant hæmorrhage induced him to have recourse to Chassaignac's linear *écraseur;* and now he always employs this latter method of amputation, after having denuded the neck by means of a bistoury, and carefully separated it from the neighboring organs."

It is a noteworthy fact that, in this connection, the operation of Marion Sims is nowhere alluded to, yet to this gentleman's exertions in this disease much credit is certainly due, and to his method of operating much confidence is accorded by the profession.

The articles upon Ante and Retroversion are short, but concise. The former he regards as very frequent in young women who have the pelvis much inclined, and states that if the patient be not pregnant no pain will be experienced, unless some alteration of structure has taken place in the uterine tissue, by tension of the peritoneal folds, which bind it to the posterior wall of the pelvis. The treatment recommended is the use of an abdominal supporter or Roser's pessary, altered so as to press against the body of the organ. The intra-uterine sound he reprobates highly. By the use of Roser's instrument for six or eight months many patients have been in his hands entirely relieved.

Of the latter of these affections he says: "Except in pregnancy, the retroversion of the womb is a secondary affection, produced by various maladies of the womb or of the neighboring organs." Very little is said of treatment.

With a page upon hernia uteri, we now arrive at the important subject of "inflammations of the womb," the author confining himself to the unimpregnated organ.

This state he regards as rarely fatal, but we frequently find in cadavers evidence of its having existed at some period of life.

" *Symptoms.*—The symptoms caused by acute metritis are local and general; the first are accessible to the means of exploration employed by physicians; for the others we must refer to the patients. The disease ordinarily commences with a very disagreeable sensation of fullness, of weight and heat in the pelvic region. The sensation at the end of twelve or twenty-four hours changes into an intense pain, situated in the hypogastric region or about the sacrum, and is accompanied by violent tenesmus of the rectum and bladder. Ordinarily, the malady commences by a chill, followed by heat and a very rapid pulse. It is not rare to observe then frequent vomitings and quite severe diarrhœa, which soon cease, to give place to a more obstinate constipation. Ordinarily, when the disease commences during menstruation, the discharge is suddenly arrested. If, on the contrary, the catamenia come on during the course of the metritis, there is no sanguineous flow at all, or else, in very rare cases, it is very abundant, and becomes a real menorrhagia. Such cases have been lately designated under the name of hæmorrhagic metritis.

"The least touch about the region of the uterus or groins causes the severest pain; as also when the finger introduced into the vagina makes a somewhat strong pressure upon the cervix and the *cul-de-sac* of the vagina.

"It is very rare that the hypertrophy of the uterus is so considerable that the fundus can be felt above the symphisis pubis through the anterior abdominal wall. When that is possible, we may with certainty conclude that there existed before the development of the metritis a notable hypertrophy, caused by a chronic engorgement, by fibrous tumors, etc., etc. When a peritonitis, of some little extent, accompanies the metritis, the existence of an effusion may sometimes be determined by percussion and palpitation.

"By digital examination, an elevation of the temperature will ordinarily be found in the external genital parts, as well as in the vaginal canal, the walls of which are either very dry at the commencement of the disease, or are covered with a small quantity of mucus, which is ordinarily viscid."

The disease is quite rapid, six or eight days serving to accomplish its course.

It may terminate in cure, in chronic engorgements, or abscess.

The cause is generally imprisonment of menstrual blood, excessive sexual indulgence, intra-uterine pessaries, certain emmenagogues, &c.

The treatment advised consists in abstractions of blood from the os uteri, warm baths, emollient cataplasms, and warm injections of milk, oil, &c., into the vagina.

Chronic metritis, the most frequent termination of the acute, shows the following pathological changes:

"By a microscopic examination of the tissue of the womb, an augmentation of the cellular tissue is recognized in this affection, proceeding from the organization of the liquid effused between the muscular fibres. The nature of this disease would then be, in an anatomical point of view, a hypertrophy of the cellular tissue. When this hypertrophy is uniform throughout the organ, it necessarily produces a compression, or perhaps even a partial obliteration of the vessels; but when it is more developed in certain points, and more feeble or completely absent in others, it happens that in these last points the vessels, and especially the veins, dilate in consequence of the duration of the circulatory disturbance, and give rise to the partial hyperæmia of which we have spoken. It thus sometimes happens that from the increased pressure of the blood the dilated vessels burst, and produce sanguineous effusions of greater or less extent, which are met with, especially in the most internal and the most external layers of the tissue of the womb. The same causes which give rise to the disturbances in the circulation and to hyperæmia in the walls of the organ ordinarily conduce to a chronic stasis in the vessels of the uterine mucous membrane. And this stasis produces the pathological alterations which we shall hereafter describe in speaking of the chronic catarrh of the uterus. These alterations usually spread over the entire uterine mucous membrane, even to the mucous membrane of the vaginal portion, where it is characterized by simple erosions, or by more profound ulcerations."

Like eccentric hypertrophy of the heart, the cavity of the organ is increased in capacity.

Symptoms.—Pain and weight in the pelvis, disorders in urination, defecation and menstruation, exudative uterine membrane, pain and congestion in ovaries, dyspepsia, spanæmia, and the train of nervous symptoms observable in other uterine disorders. Physical signs: palpitation shows the fundus above the pelvic brim; the touch shows the os and cervix enlarged, tumefied, and little sensible to the touch; and the sound evidences increased capacity of the cavity.

Prognosis as regards cure unfavorable, except in women arrived at the change of life, when senile atrophy naturally occurs.

"It is in many cases very difficult, with complete certainty, to distinguish a simple engorgement from polypi and fibrous bodies still small and projecting into the uterine cavity. In such a case, it is necessary to pay particular attention to the catamenia, which, in the disease now under consideration, are ordinarily defective in quantity, while they are almost always very copious and very frequent when fibrous bodies or submucous polypi are present. Fibrous, subperitoneal bodies of any very considerable dimensions, are easily recognized by palpitation, assuming as they do the form of tumors, rounded, mammillated, and more or less sharply defined. As to intra-uterine polypi and submucous fibrous bodies, they always cause, when they attain any considerable size, such a dilatation of the cervical cavity that the vaginal portion gets notably shorter, and sometimes even completely disappears, while in simple engorgement it is always hypertrophied and enlarged.

"The diagnosis will, in very many cases, be much more difficult, when we have to distinguish between engorgements of the inferior segment of the uterus and scirrhous induration of the same portion; and we frankly avow that we do not know any discriminating symptom which is perfectly sure. We must take into account the age of the patient, the cause of the disease, if it is possible to discover one, and its progress and its influence on the general health. The extraordinary hardness of the vaginal portion and of the inferior segment of the uterus, which has been mentioned by many authors as a certain sign of cancerous infiltration of these parts, is not, in our opinion, so; for we have met many cases where the progress of the disease has in the end demonstrated that it was but a case of simple engorgement. For the difference which exists between the ulcerations of the uterine orifice, which are so frequent in this last disease, and the cancerous ulcerations of the vaginal portion, we refer to the special chapters upon these subjects. For the differential diagnosis of engorgement and incipient pregnancy, it is important, besides ascertaining the presence of the ordinary signs of pregnancy, to examine with care the state of the vaginal portion, which, in the course of the gravid condition, is always shortened and softened, while in engorgement it is constantly enlarged in all its dimensions, and becomes extraordinarily hard and resisting. Furthermore, we must admit that a single examination is not often sufficient to insure a correct diagnosis, and for that it is necessary lor a long time to observe the progress of the disease, and to make repeated attentive examinations of the diseased parts."

The indications for treatment are, first to relieve the engorgement, or failing in this, to relieve the distressing symptoms resulting therefrom. The plan of operations best suited to the first end is this: Leeching every five or six days; warmth and moisture locally by warm hip-baths twice a day; injections and compresses; application to hypogastrium of tr. iodine; or of an ointment containing iodine or bromine; laxatives and mineral waters, as those of Marienbad, Kissingen, and Karlsbad. After using for three or four weeks the laxative mineral waters, he advises a change to the chalybeate, as those of

Brückenau, Bocklett, &c., &c. M. Scanzoni thus gives us a rational and efficient code of treatment, but curiously (as it appears to us) neglects some means of importance equal to that of any he advises; as, for instance, total abstinence from sexual intercourse, the recumbent posture during some hours of each day, and avoidance of muscular exercise. In addition to these, we have in some cases accomplished much good by lifting the congested organ out of the pelvis and keeping it raised by the use of Meigs' ring pessary; any other pessary than this would do harm.

Sixteen pages are devoted to acute and chronic inflammation of the mucous membrane of the uterus, when we arrive at those obscure diseases, "hydrometra" and "pneumo-hydrometra:" the first he regards as mere obstruction or stricture of the cervix uteri, with collection of fluid above; and the second, as this state, with decomposition of the pent-up liquid. The treatment is obviously to remove the obstruction.

Of ulcerations of the uterine os and cervix, the author recognizes these varieties:

a, Excoriation.
b, Granular ulceration.
c, Fungous "
d, Varicose "
e, Phagedenic "
f, Syphilitic "
g, Cancerous or tuberculous ulceration.

The plan of treatment presents nothing that is new, but at the same time very faithfully enumerates all that is at present known. With regard to local treatment, he says:

"It is almost indispensable, in order to obtain happy results in the treatment of these ulcerations, to have recourse to repeated cauterizations. As to the choice of caustics, the solid nitrate of silver suffices for ulcerations of little depth, where there are no wide-spread loss of substance, few granulations, and little disposition to hæmorrhage. But if the ulceration is very extensive, covered with numerous granulations, and bleeding very easily, or, indeed, if no satisfactory result has been obtained from four or five cauterizations with the lapis infernalis, we should have recourse to stronger caustics, among which the acid nitrate of mercury, Plenk's lotion, (corrosive sublimate two parts, camphor one part, alcohol sixteen parts,) deserve to be cited in the first rank. These liquids are applied upon the ulcerated surface by means of a pledget of lint. It is necessary, however, to use them with the greatest precaution, in order that they may not come in contact with the vaginal walls, otherwise very deep ulcerations might result therefrom. It is also necessary to beware of repeating these cauterizations at too short intervals, for it has often happened, and we have ourselves sometimes observed it, that the neglect of these precautions was the cause of an abundant and long-continued salivation.

"The Vienna paste in the solid state, which, after the directions of Filhos, may be obtained by melting in an iron spoon two parts of caustic potash and one part of chalk, and immediately pouring the mass into a hot cylindrical mould, is a caustic still more energetic than those we have mentioned. Before making the cauterization, the extreme point of this caustic is dipped in alcohol and passed lightly once or twice over the ulcerations, which should be immediately dried with a pledget of lint. Then we remove, by means of an injection of cold water, the residue of the caustic, in order thus to protect the neighboring parts from the corrosive action. Filhos recommends vinegar for those injections intended to neutralize the caustic.

"If the ulceration resists these energetic cauterizations, we should employ the actual cautery, which in all cases conducts the most promptly and the most surely to the desired end."

Passing now without comment over some eighty pages devoted to fibrous tumors, polypi and cancer of the womb, we arrive at disorders of menstruation. He treats of these under seven heads.

"1st. The premature appearance of the courses. 2d. Their too tardy appearance. 3d. Their premature cessation. 4th. Their tardy cessation. 5th. The absence of the principal symptom, that is to say, the hæmorrhage during the nubile period. 6th. The excess of the sanguineous flow. 7th. The difficult menstruation which is accompanied with violent pains."

Vicarious menstruation he regards as due to a predisposition to hæmorrhage from some other organ, from some anomaly existing in it.

Dysmenorrhœa he treats of under two heads, "Nervous" and "Congestive," leaving that variety dependent upon mechanical cause to be considered when investigating such organic change. In connection with the etiology of the former he says:

"Finally, in an etiological point of view, the following circumstance also deserves consideration: that the abnormal nervous irritation of the uterus may give rise to reflex movements of the organ, and to a convulsive contraction of the cavity of the neck. Hence the escape of the blood which is already effused is impeded by an obstacle which irritates in its turn the motor nerves of the body and fundus of the uterus, and thus provokes painful contractions. This is what to us appears particularly to take place in cases where, after intense expulsive pains, lasting perhaps several hours, the patients suddenly eject a considerable quantity of blood, partly liquid and partly coagulated, and find instantaneous relief."

The treatment advised is the use of opiate liniments and suppositories, or of medicated pessaries, containing narcotic substances. Also warm baths are advised, and chalybeate treatment in the intervals of menstruation. In congestive dysmenorrhœa he resorts to leeches, the waters of Marienbad, Karlsbad, &c., and sometimes iron. He has not used general blood-letting nor intra-uterine cauterizations.

For want of space, we are forced to pass over the chapters devoted to Inflammation of the Ligaments of the Uterus and of the Ovaries, and hasten through the rest of the work. The space devoted to ovarian tumors is well occupied by an exceedingly interesting and comprehensive essay. Operative procedure is considered under the following heads:

a, Puncture through abdominal walls.
b, " vaginal *cul-de-sac*.
c, Use of injections into the cyst.
d, Incision of the cyst.
e, Total extirpation.

The first he regards as objectionable, because merely palliative, and because the length of the intervals diminishes with the number of the punctures.

To the second method he is very partial.

"If the puncture by the vagina was always possible, the abdominal puncture would soon entirely disappear from chirurgical practice; but, unfortunately, this is not the case, for the conditions necessary for this operation are met with in but few patients; in fact, it is rare that the lower portion of the tumor descends sufficiently low into the pelvis to be accessible to the vaginal touch; and, furthermore, in many cases where the tumor can be reached, it does not present in its lower portion any cavity filled with liquid, but only solid masses of a sarcomatous, colloid, or cancerous nature."

Of the third he says:

"It results from all that we have said upon the subject of injections, that the dangers which this method presents are not compensated by sufficient advantages. Consequently, we shall do better to set it entirely aside, especially as many authors have demonstrated that it was not so sure as we have been told."

To the two last operations he objects very positively. "We consider," says he, "ovariotomy a surgical temerity," &c., &c.

Again we are forced to pass over all devoted to Abnormal States of the Vagina, until we arrive at Fistulæ, and this we regret to characterize as imperfect to a painful degree. The American reader will be surprised, indeed, when informed that in the bibliography of the chapter devoted to this subject the name of Sims does not appear, nor that of any writer in the English tongue, other than Sir Charles Bell.

Before concluding, we must notice a statement in the sixth part of the work, which is devoted to diseases of the external genitals. Upon the subject of perineal rupture the following very remarkable passage occurs:

"For the prophylaxis of perineal ruptures we will refer the reader to treatises upon the art of midwifery;* we will only add, that we know but a single method of preventing this unfortunate accident: it is the unbridling the vulva, which consists, at the moment of the passage of the head of the child, in making two incisions from four to six lines towards the posterior border of the vulva; a procedure which we have put to the proof more than one hundred times, and which we have described in detail in our *Traité des Accouchements*, (3d ed., p. 712.")

We would suggest that, having tested the method of interference "more than one hundred times," the author must often have done it unnecessarily; that in so doing, he was guilty of meddlesome midwifery of no ordinary kind, and that such a precept instilled into the minds of students would do serious damage.

But already we have occupied so much space that we can go no further.

Before this work of M. Scanzoni came out in our language, we were always puzzled when asked by students what text-book they should employ; that difficulty disappeared with the examinaton of this book, for, although we have ventured to differ with the author in several points, the production, as a whole, commands our respect and admiration. The great criticism to be made on the manner in which the author has performed his work is this: while he has studied deeply German and French literature bearing upon his department, he has allowed himself to remain culpably ignorant of the advances made in America, and even in Great Britain. Had he been thoroughly informed upon the writings of Simpson, Bennett, Clay, and others of the latter country, and of those of Sims, Meigs, and others of this, in many cases his articles would have been much improved. When international communication is as easy as it is now, there is no excuse, no pardon, for ignorance of published views of the importance, for example, of those of Sims on Fistula, and Scanzoni was culpable in not informing himself upon them before aspiring to the dignity of authorship.

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* M. Chailly has given excellent advice in his practical treatise on the art of midwifery.

The American translator has performed his task faithfully, capably, and evidently with much labor and research; and certainly the profession is under great obligation to him for placing this work within its reach. Whoever opens to Anglo-Saxon investigation the rich field of German medical literature, (than which none other is more fruitful,) confers a favor upon those not able to read the language; and it is to be hoped that the many talented German physicians resident amongst us may be stimulated by the encouragement given to Scanzoni's work, to present us with others now unattainable. Though watchful for errors in Dr. Gardner's translation, we have discovered none of any moment. He introduces, we observe, a number of words not in general use, *e. g.*, "ecchysis," effusion; "anamnestic," remembered; "ballotable," capable of being tossed, &c., &c.; but in all cases these will be found correct and legitimate.

As a matter of taste, we would suggest, in another edition, (which we prophesy will soon be called for, and encored even to the fifth, sixth, and seventh,) the omission of the editor's lecture on the "Influence of Medicines on the Milk," in which he gives us a new nomenclature of galactagentia, ischo- and phygo-galactics, &c., &c. Not because the lecture is not an excellent one, would we omit it, for so we esteem it to be, and right willingly would we applaud it in a work by the editor; but this work is by M. Scanzoni, and it strikes us as in bad taste to add entire lectures on any subject, unless in case of gross negligence or omission on the part of the author. But besides, the editor seems to lose sight of the fact that Scanzoni's work is one strictly confined to gynecology, while this lecture belongs eminently to a course on obstetrics.

The publisher, Mr. De Witt, deserves great credit for the liberal manner in which the work has been executed; the paper, type, and binding are excellent. T. G. T.

Medical Jurisprudence. By Alfred Swaine Taylor, M.D., F.R.S., Professor of Medical Jurisprudence and Chemistry in Guy's Hospital, etc. *Qui nescit ignorare ignorat scire.* Fifth American, from the Seventh and Revised London, Edition. Edited, with Additions, by Edward Hartshorne, M.D., one of the Surgeons to the Pennsylvania Hospital. Philadelphia: Blanchard & Lea. 1861. 8vo, pp. 714.

We have before us a copy of the first American, from the first London, edition of Taylor's Medical Jurisprudence, "edited, with Notes and Additions, by R. Egglesfield Griffith, M.D., published by Lea & Blanchard, in 1845." Since its first appearance, from fifteen to twenty thousand copies must have been circulated here and in England; and we candidly believe it alone has done more to give to the *mass* of practitioners, both legal and medical, just ideas of Legal Medicine than all the other publications in the language put together. Under these circumstances, we need hardly regret that the limits of our space forbid a more lengthy notice. We need but assure our readers that not only has the author, since the issue of the last American edition, twice thoroughly revised and still greatly improved, "in accordance with the advance of science and experience, derived from recent cases," what was already good, but Dr. Hartshorne, too, has performed his task faithfully and satisfactorily. The quinquennial prize of one hundred pounds, and a silver vase of like value, under the will of the late Dr. Swiney, has, by the Royal College of Physicians and the Society of Arts, been bestowed upon the author for this work, and the full justice of the award every reader of the book will confirm.

The American publishers have "gotten up" the work in their well-known unexceptionable style.

EDITORIAL AND MISCELLANEOUS.

— We have never performed a more pleasant duty than publishing the following letter. It is a copy of a large number of missives which (each with an accompanying bank-check) the mail-carrier distributed in the various parts of the city and Brooklyn. We publish it without permission from, or indeed the knowledge of, the writer; we cannot, however, resist the desire to let our readers participate in the thrill of enthusiasm which the perusal inspires. Who does not feel an ennobling pride as belonging to a profession whose spirit this letter embodies? Our most heartfelt congratulations at Dr. Squibb's truly deserved success in business we gladly commingle with expressions of the esteem entertained for him by all that know him. Men as he is one, every true man delights to honor!

"Brooklyn, *November* 12, 1861.

"Dear Sir—About April of 1859, when the undersigned had suffered a loss of apparatus, etc., by fire, you and many others came forward through Dr. Jas. M. Minor, and by a subscription amounting to nearly twenty-one hundred dollars, made good the loss sustained. This sympathy and pecuniary aid were most acceptable, and were gratefully received—but in the case of the pecuniary aid, with the mental reservation that the money thus so liberally bestowed should one day be returned. Since that time, principally through the preference given to a good class of medicinal preparations by the Medical Department of the Army, my business has been reasonably prosperous, and I now ask as an especial favor, to be permitted to return the amount of all these subscriptions, with the interest added. In sending you the inclosed amount, be assured that it is with no desire to impair, much less to discharge, the obligation under which your timely sympathy and aid placed me. On the contrary, this obligation is one of the most grateful recollections of my life, and this duty of reimbursing you for the inferior part of your liberality once performed, the obligation will remain with me as an unalloyed pleasure, and a debt only to be paid with the great debt of nature.

"Very respectfully, and very truly yours, E. R. Squibb."

— "*American Journal of Ophthalmology.*"—Dr. Homberger, a valued though but recent contributor to the pages of the Monthly, requests us to announce his design to publish a journal entitled as above, specially devoted to Ophthalmic Medicine and Surgery. To speak of the advantages which such a publication offers to the specialist as well as to the general practitioner seems almost superfluous. There was a time when all natural science could be grasped by one master-mind. As the knowledge of principles and facts accumulated, divisions and subdivisions were found necessary. Thus medicine, as a specialty, became separate from its fountain-head and co-ordinate streams, the physical sciences. Of late years, our science and art has received such an impetus by men of genius, and enlarged general medical education, having devoted themselves to special departments of study or practice exclusively, that it has become as impracticable to represent, without a division of labor, the actual advances in the whole domain of medicine by the periodical press, as it is impossible for one man to teach all the branches in our schools, or to attain pre-eminence in every branch in actual practice. We shall recur to this subject at a future time; meanwhile, we bespeak for the proposed Journal of a specialty as emancipated from general practice as that of the oculist has become, a favorable consideration.

THE AMERICAN

MEDICAL MONTHLY.

DECEMBER, 1861.

ESSAYS, MONOGRAPHS, AND CASES.

Report of Operations performed in the Eye Department of the Brooklyn Medical and Surgical Institute. By Dr. JULIUS HOMBERGER, Ophthalmic Surgeon of the Institute.

(Continued from November No., p. 355.)

31. *Strabismus converg. concom. oc. dextr.* (4½ lines.) Elizabeth C., 19 years of age, was operated upon both sides for this deformity, on the 26th of August. I saw her a month later, and there was not left the slightest mark by which one could tell that she had ever been cross-eyed.

32. *Staphyloma Partiale. Vascularized Pannus on the external part of the Cornea. Iridectomy.* Annie W. A., æt. 9 years, had on the right eye a prolapsus of the iris, forming a small staphyloma; the cornea was opaque around this, and some small vessels were to be seen upon it. The pupil was not visible; it was drawn outward by the staphyloma, which did not quite occupy the centre, but was a little to the side, and, together with the opacity of the cornea, extended over the third part of the latter. The pannus was the result of a granular condition of the lids. This I had lessened by a treatment of some weeks previously, and when, in spite of the improvement of the lids, the opacity still existed to a certain amount, I practiced iridectomy, hoping thereby favorably to modify the vital processes in

the cornea. The patient could well distinguish day and night before the operation, and saw the flame of a lamp distinctly, even when the flame was not larger than a pea. I performed the operation on the 26th of September, cutting a middling large piece of the iris out, corresponding with the inner, more transparent, part of the cornea. When I saw the patient last she counted fingers and saw my watch, but the beneficial effect of the operation will become fully known only after the inflammatory process in the cornea has entirely subsided.

33. *Strabismus converg. concomit. oc. sin.* (4 lines.) Ellen B., æt. 15 years, was operated upon both eyes at once, on the 4th of September. I saw that her eyes were perfectly straight on the 20th of the same month.

34. *Strabismus converg. concom. oc. sin.* (2½ lines.) One large tenotomy performed upon the eye of Mary B., æt. 15 years; removed the squint of the left eye entirely. I saw her also cured the 20th of September, three weeks after the operation.

35. *Fistula Lachrymalis. Destructio Sacc. Lachrymal.* Mrs. Margaret W., æt. 40 years, came to the clinic with an opening in the skin covering the lachrymal sac, the result of an acute dacryocystitis. The acute inflammation had just subsided. On pressure, some matter was discharged out of the opening, some out of the inferior canaliculum. The patient had suffered from a chronic blennorrhœa of the lachrymal apparatus for several years. I found, when examining with a probe, an impermeable stricture a little below the place where the abscess had broken. I tried to discover, by an injection of water, whether the nasal opening of the lachrymal sac was closed or not. The patient did not feel any water running down the throat, so I resolved to destroy the whole sac.

In order to effect this, I first introduced a little silver sound, covered with a thin layer of nitrate of silver, in the inferior canaliculum, after I had slit it up just as for Bowman's operation. This has to be done in order to prevent the further absorption of tears, as the cauterization of the canaliculum gives rise to an adhesive inflammation.

The following day I opened the lachrymal sac as usual, and lengthened the cut through the internal lachrymal ligament. The incision I made to pass through the opening of the abscess. After having stopped the bleeding, I introduced a large pointed piece of nitrate of silver, moving it around in the wound, so as to touch every part of the mucous membrane. Having done this, I syringed the sac with some salt water, in order to neutralize the superfluous portion of the caustic.

Cauterizing three or four times, in the same way, I succeeded in obstructing the sac; and the wound was healed, having scarcely left a scar, a fortnight after the operation. In these cases, the running of a few tears over the cheek generally annoys the patient much less than the former lachrymal hernia.

36. *Strabismus converg. concom. oc. sin.* ($2\frac{1}{2}'''$.) James T., ætatis 12 years, was operated upon on the 23d of August. The cellular tissue under the conjunctiva was more extensively divided than usual. The operation effected a perfect cure.

37. *Leucoma Adhærens. Iridectomy.* The patient, Sarah D., æt. 18 years, lost the sight of her left eye by a perforating ulcer on the centre of the cornea. The leucoma is almost round, and has a diameter of two lines; there is nothing to be seen of the pupil, the margin of which is entirely united with the leucoma. The anterior chamber is considerably smaller than usual—almost not existing. I formed a small artificial pupil inward from the opacity, on the 29th September; another one outward some days afterwards. Both the operations were followed by no inflammation whatever, and the patient, who could hardly distinguish day and night before, read with convex glasses middle-sized print (No. XII.) when I saw her last.

38. *Strabismus concom. converg. oc. dextr.* (4½ lines.) Alfred J., æt. 21 years, was operated upon both sides at once, (20th August.) A squint of half a line was left when he came to see me on the 28th of same month.

39. *Strabismus concom. converg. oc. sin.* (4 lines.) Charles J., æt. 26 years, offered the same deformity as the last patient, on the left eye. The operation, performed on both sides, (21st August,) was perfectly successful.

40. *Cataracta Secundaria.* (*Operated per sclerot.*) Henry B., a mulatto, 31 years of age, had been wounded on his eye when a child. The pupil was closed by a white membrane, which was the capsule of the lens; resorbed in consequence of the wound. I operated by introducing a needle through the sclerotica, just as in reclination; "presenting" the instrument in the pupillar space, and tore the membrane from most of its connections with the posterior surface of the iris. The patient saw rather larger objects a few days afterwards, when I uncovered the eye, but the cataract was still fixed on the iris, and floating often towards the pupil. The patient always noticed this, and said he saw a cloud passing. Though I now propose to repeat the operation, and will certainly succeed in tearing the whole mem-

brane away, I must acknowledge that I feel sorry that I did not remove it by linear extraction.

The patient came to me with a most intense iritis a fortnight after the operation. I had to make paracentesis several times, in order to stop his furious ciliary neuralgia. I did not touch the iris with the instrument, yet induced a more severe iritis than I ever before noticed in consequence of iridectomy or linear extraction.

This case proves how dangerous the operation per scleram may become, although considered so safe by some physicians.

Notes on a Case of Poisoning by Strychnia applied to the Puncta Lachrymalia by Langenbeck's Method. By Dr. CHARLES SCHULER

The satisfactory results that M. Langenbeck, of Hanover, has obtained during the last ten years, by his method of inoculating medicinal agents into the subcutaneous tissue, have induced him to make further researches with regard to this mode of treatment. He has recently employed various agents upon the mucous membrane of the eye, especially of the lachrymal organs.

Among these experiments, the application of strychnia to the *puncta lachrymalia* seems to possess considerable interest, from the effects resulting from it.

We cite the following case:

"About six milligrammes of pure strychnia were introduced at different times into the eye of a man 50 years of age, who had long labored under amaurosis of both eyes. The powder was placed at the bottom of the small pocket formed between the lower lid and the eyeball. No effect was produced upon the patient's system. This M. Langenbeck was at first inclined to attribute to the fact that the strychnia, which is not readily soluble, had not been absorbed by the mucous membrane, rather than to any inactivity of the membrane itself, which, as he had often observed, possesses in the highest degree the property of absorbing foreign substances.

He feared that even a very small quantity of one of the salts of strychnia would prove dangerous if placed in contact with the mucous membrane of the eye, these salts being very soluble. He had observed, moreover, that the efficacy of many agents is increased when they have been caused to enter the lachrymal canals; a solution of belladonna, for example, dilates the pupil less rapidly and less perfectly when prevented from coming in contact with the lachrymal point. Accordingly, he determined to apply pure strychnia to the inferior lachrymal point. One-twelfth of a grain (less than five milligrammes) was introduced by means of an ear-pick into the left eye upon the point indicated; but as a portion of the powder fell upon the ground, there remained only about three milligrammes. The result was as follows:

"Not more than three or four minutes had elapsed, when the patient's face assumed a livid paleness, and spasmodic yawnings were observed; vertigo then came on, and he fell upon a chair. The windows and door of the room were thrown open; the portion of the powder still adherent to the lachrymal point was wiped off; the patient's face and back were sprinkled with cold water, and enemata were administered.

"In spite of these measures, more serious symptoms of poisoning supervened; at first loss of speech, cessation of the pulse, and laborious and interrupted respiration, followed by violent tetanic convulsions. The spasms were ten or twelve in number; their violence increased up to the fifth, after which they gradually abated. In a short time, though death had seemed inevitable, the patient was somewhat improved; he now felt a painful distention of the bladder and rectum, which was followed by copious evacuations. In less than half an hour he was perfectly restored."

Without attempting to offer a physiological explanation of a fact which proves that a very small quantity of strychnia may speedily cause death when absorbed by the puncta lachrymalia, we would call the attention of our professional brethren to the most important point in this case, viz., its bearing upon medical jurisprudence.

I.—From five to fifteen centigrammes either of pure strychnia, or one of the salts of strychnia, placed in the internal angle of the eye of a sleeping man, would be sufficient to destroy life speedily and silently.

II.—The detection of the poison, which could be found only in the lachrymal canals, and on the mucous membrane of the eye, would be extremely difficult, inasmuch as the powder adherent to the corner of the eye might easily be rubbed off by the hand of the murderer, or of the dying man himself.

III.—Experiments upon vertebrate animals would probably furnish some method of ascertaining the presence of the poison in the lachrymal canals or in the blood. Still it is by no means certain that such experiments would have results similar to those observed in the human subject, since the lachrymal apparatus of the lower animals is not so immediately dependent upon the brain and spinal marrow as it is in man.

On Pulsatilla. By Dr. JOHN C. PETERS.

Anemone Pulsatilla; Pulsatilla Prætensis; Pulsatilla Nigricantis. Wind-Flower.

AUTHORITIES: *Sobernheim's Materia Medica; Dierbach's Materia Medica; Vogt's Materia Medica; Frank's Magazine,* 4 *Vols.; Hamilton's Flora, &c.*

Botany.—It is a small herbaceous plant, indigenous in Northern and Southern Europe, growing in exposed, windy and sunny places, or on arid and barren hills, or in sandy woods. It is recognized by its leafless stems, which are about three to six or eight inches high, with a manifoldly indented sheath under the flowers. It gets its name, Anemone, from *anemos*, the wind, because many of the species grow in exposed situations; Pulsatilla, from *pulso*, to beat, from its being perpetually agitated by the air; the flower is called *nigricans*, from the dark color of its petals. It belongs to the genus *Anemone;* family, *Ranunculaceæ;* class, *Polyandria Polygnia.*

History.—Dioscorides described three varieties of pulsatilla, and recommended them principally as external applications to *foul ulcers*, in inflammation of the eyes, and mixed in medicated pessaries for *suppression of the menses.* Pliny recommended all kinds of the plant in *headache*, inflammations thereof, in infirmities of the teeth, and when laid to the *eyes*, as a cataplasm to repress the vehement flux of watery humors thither; also in tertian and quartan agues. But it was on the authority of Baron Störck that this plant was again received into medical use, about the year 1771; while Hahnemann gave a fresh impetus to its use about 1812. It is a singular fact, that the latter exhibited it in very few or no diseases in which it had not been previously used; his extensive acquaintance with the ancient medical authorities led him to use many obsolete remedies in diseases in which they had been given for ages, but not in infinitesimal doses. For instance, Störck advised it as an effectual remedy in many chronic diseases of the eye, especially *amaurosis*, *cataract*, and *opacity* of the cornea; he likewise found it of great use in nodes, nocturnal syphilitic pains, ulcers, caries, indurated glands, herpetic eruptions, melancholy and palsy. The Baron himself had for two years suffered much from the consequences of a violent contusion of the eye, and cured himself with pulsatilla; two cases of *amaurosis*, three of cataract, and seven differing affections of the cornea, he tells us were either entirely cured or generally benefited by this remedy. Many German physicians have since tried it in diseases of the eye, with more or less success. Among the best known of these, are the celebrated Bergius and Richter, who boldly or wisely increased the dose beyond that recommended by Störck. It was also used by these physicians in menstrual disorders. Of the later materia-medica writers, Dierbach classes it among the *acrid diaphoretics*, in company with dulcamara, aconite, chelodonium, &c. Vogt and Sobernheim place it among the *acrid narcotics*, with conium, aconite, digitalis, &c.

Dose.—The plant loses almost all its virtues by drying and steaming; hence large quantities of the tinctures and extracts in common use are almost, if not quite, worthless. Störck's distilled water of pulsatilla is very good, and was given in doses of from two to four fluid drachms, from two to four times a day. The powder of the dried plant and the extract were given in from one to three grain doses, several times a day, but are generally valueless. Dierbach directs from five to ten grain doses of the powder of the leaves; or an infusion of the fresh, or carefully dried plant, in the proportion of one-half or a whole drachm to six ounces of hot water, allowed to cool, and taken in divided doses; he says it often happens that very large doses of poor preparations are given without any effect. I can only add, that I have prescribed it for many years, and from some preparations, in large or small doses, could get no effects, either good, bad, or indifferent. This becomes very clear when we are convinced of the well-authenticated facts that the leaves, stem, and root of fresh pulsatilla have an acrid, burning taste, and its juice may draw a blister; yet these properties are so much lost by desiccation, that ruminating animals, such as sheep and goats, may eat the *dry* plant with impunity, and without aversion, if mixed with other grasses and herbs.

Effects on the Healthy.—Baron Störck says the following symptoms were usually elicited by efficient doses: pain in the head, wandering and shooting pains, especially in torpid or paralyzed limbs, violent itching of the skin, tormina in the bowels; when the menses were suppressed or scanty, they generally recurred, and became regular in time and quantity; the urine generally flowed somewhat copiously; pains in the eyes were not uncommon, with lachrymation; salivation, lasting some days, has been noticed several times; in cases of paralysis, pains in the legs as far as the groin, and in the back, preventing sleep, have been attributed to it.

Dierbach says if the fresh plant is pounded or bruised, the vapor arising from it is apt to cause itching and pricking in the face and eyes, and this is more especially the case when the extract is making over an open fire. When taken internally in large doses, it often causes profuse perspiration, which may be offensive, and sometimes brings out pustular eruptions on paralyzed limbs; it also often acts as a powerful diuretic; it may cause painful sensations in the salivary glands, and *actual salivation*, somewhat like digitalis has been known to cause. Given in very large doses, it may excite excessive hunger, followed by pains in the stomach, nausea, vomiting, colic, and slimy stools; while suppressed hæmorrhoids and menses are apt to return. Inclination or irritation to cough, frequent sneezing, headache, dimness of sight, vertigo, and trembling have been said to be caused by it. He adds, that it is undoubtedly a very active and useful remedy, which is so often spoiled in the preparation by pharmaceutists that it has often fallen into unmerited neglect.

Vogt writes: "From moderate doses, we observe a more active movement of the fluids and metamorphoses of the tissues, followed by more copious discharges from the internal and external membranes, such as increased flow of urine, greater moisture of the eyes, nostrils, and bronchia, with more or less increase of perspiration. In larger doses it causes increased urination, with more or less of, but not great, irritation about the kidneys, bladder, and urethra; some inclination to cough and sneeze, with increased flow of mucus and expectoration; and more or less perspiration, sometimes followed by the outbreak of small vesicles or other eruptions upon the skin, has been supposed to have been brought about by it in some instances."

Uses in Disease.—Among the disorders in which it has been most frequently and successfully used, may be mentioned various affections of the eyes, such as

Rheumatic Amaurosis.

Case 1.—A previously healthy and robust person, aged 38, exposed himself, bareheaded, while perspiring, to a very cold draught of air, and was attacked the next day with catarrhal and rheumatic troubles, marked by wandering and rending pains about the eyebrows, which gradually extended to the orbits and teeth, followed by dimness of sight. After being treated for six months with blisters, foot-baths, eye-ointments and washes, vapors of different medicines to the eyes, &c., which had not checked the progress of the amaurosis, he fell under the care of Dr. Helmbrecht. The pupils were natural in size, but the irides immovable; there was much photophobia, with lachrymation; the rheumatic pains about the eyes, orbits, and bulbs were as severe as ever before, and there was considerable ptosis, with absolute loss of sight. Drastics, diaphoretics, and a seton in the neck were used with but little effect, when finally three grains of extract of pulsatilla were given three times a day, but simultaneously tincture of cantharides, with compound spirits of rosemary, was applied several times a day to the eyelids and brows. There was no improvement in eight, but at the end of fourteen days glimpses of vision were becoming more evident and frequent, and instead of absolute darkness things were seen as through a mist or veil. Then pains in the stomach, canine appetite, followed by nausea and vomiting, commenced to arise; the stools became slimy, the urine copious, and the perspiration very offensive; the patient became debilitated, and a pustular eruption broke out over the body, attended with frequent inclination to sneeze and cough; there were itching in the urethra, headache, with recurrent chills, frequent trembling of the limbs, and especial complaint of peculiar pains about the eyes. These were regarded as effects of pulsatilla, still the doses were increased to four grains each; the diet was improved and strength was regained, while the eruption and gastric affections passed away spontaneously, and the eyesight improved daily. In eight days more the patient could recognize objects pretty well; but at times a mist or fog would seem to arise before the eyes, then fall again, during which he could see nothing. The eyes were more expressive; the irides somewhat movable; the ptosis slight, and all pains in and about the eyes had ceased. The pulsatilla was continued twice a day, and the patient recovered and retained his sight entirely, remaining under observation for some time subsequently.—*Frank's Magazine.*

Erethismus Oculorum.

Case 2.—A lady who had long been troubled with sensitiveness to, and intolerance of, light, took ten-drop doses of the strong essence of pulsatilla, three times a day, with the best effect.

Case 3.—Another lady, whose eyes were reddened and excessively painful, was quickly relieved by ten-drop doses, night and morning, of a mixture of ten drops of the strong essence of pulsatilla in half a drachm of alcohol, aided by the occasional external application of the same remedy.—(*Kopp.*)

Scotomia, (False Vertigo.)

Case 4.—A gentleman, aged thirty-four, had suffered since his seventeenth year, arising from imprudence in diet and conduct, with nervous exhaustion, and weakness both of digestion and sight, attended, from time to time, with false vertigo, vomiting of sour fluid, and violent sick-headache, lasting twenty-four hours. He was treated for six years by different eminent physicians, but the affections of the eyes, head, and digestive organs returned at uncertain intervals, and with increasing violence; he also used the mineral waters of Carlsbad, Franzensbrunn, and Cadowa, without relief, and even, in his despair, consulted a notorious magnetizer. Finally, the attacks came on every other day, with such severity and persistence, that slight convulsions often occurred. Then Dr. Lowenhardt treated him for eight months with various metallic oxides, narcotics, &c., with no better results. Finally, the extract of pulsatilla, in two-third-grain doses, was given, every night and morning. In a few days the whole trouble was removed permanently. Dr. L. has met with several other cases in which like favorable results occurred.

(To be continued.)

Case of Poisoning by Acetate of Morphia, in a Child aged seven months.

By S. I. RADCLIFFE, M.D., of Baltimore, Md.

I was called to see the child of G. M. K., seven months old, a large, plump, and healthy male, at 12½ o'clock, P. M., March 5th, 1861, which the mother thought was dying. Upon inquiry, I learned that the aunt of the child had given it a tea-spoonful or more of a mixture which had been prescribed for the father, for coryza or bronchial irritation, under which he was laboring. The aunt, thinking it would answer as well for the children, administered it to two of them, one besides the infant, a boy of some two or three years of age, for what she supposed to be "a cold." The infant was placed on a bed in the room, and about two hours afterwards, the mother, observing that it slept long and soundly, and made a very singular snoring noise, attempted to awaken it, but finding she could not, sent for me. It was not, however, until over three hours had elapsed after the administration of the medicine that I saw it.

Upon examination, I found the infant completely narcotized—in a profound stupor, with stertorous respiration, suffused countenance, contracted pupils, slow, labored, and irregular pulse; it was also completely insensible to all external impressions; the involuntary organs alone acting, and that feebly, to sustain life.

I conceived it at once to be a case of poisoning by opium, or some of its preparations, and dispatched a messenger immediately to the druggist who dispensed the medicine intended for the father, and which the child had taken, for a copy of the prescription; and the following was returned as a correct copy :

℞.—Vin. ant.,	ʒss.
Acet. morph.,	gr. x.
Spt. nit. dulc.,	ʒss.
Syr. scillæ,	ʒj.
Mel. despumat.,	℥iv.

M. Sig. A tea-spoonful *every hour.*

Finding the case very alarming, and would in all probability prove fatal very soon, if something was not done at once, (if anything could be of any service,) I commenced the treatment by trying to induce emesis, but after using syrup of ipecac, until about 2 f. ℥ had been given, and the plentiful administration of mustard, salt, warm water, and other emetics, tickling the fauces, &c., seeing they produced no impression upon the insensible mucous membrane or nerves of the stomach, I abandoned the idea; I directed, then, strong coffee to be given it, its head soused in a basin of cold water, or held over the basin and doused well, repeatedly, and to be kept continually in motion; and sent for Dr. Wm. M. Kemp, their family physician. We discovered deglutition becoming quite difficult, and it was not easy to administer anything by the mouth. We agreed to continue the treatment, and to meet at 3½ o'clock.

3½ o'clock, P. M., about the same—could not arouse it; continued the treatment, with a stimulating injection.

6½ o'clock, P. M., met again—about the same—if any change, seemed more under the influence of the poison; tried it to the breast, but had not the power of suction; it made an effort, seemingly, more from habit than sensibility. Continued the treatment.

10½ o'clock, P. M., called alone, and found the narcotism passing off; opened its eyes for a few moments when spoken to; seemed to recognize persons about it; bowels and stomach emptied, pupils relaxed and enlarging, pulse softer, and more frequent and natural; had nursed freely. Pronounced it out of danger, but directed it to be watched.

6th, 8¾ o'clock, A. M., met Dr. Kemp—symptoms all abated; nurses heartily; decided to leave it without any treatment for the day.

6 o'clock, P. M., a little feverish and fretful, probably from the agitation it received; otherwise doing well.

7th, $1\frac{1}{2}$ o'clock, P. M., met Dr. Kemp. Appears to be entirely relieved. Discharged.

Note.—There being 10 grs. of acetate of morphia in the 34 dr. mixture, ($\frac{1}{6}$ gr. being equivalent to about 1 gr. opium,) there was $1\frac{13}{17}$ gr. opium to the dr. or tea-spoonful; consequently the child must have taken about 2 grs. of opium, if it is correct that it took a tea-spoonful and a half of the mixture, which they said was the fact. Comment is unnecessary. The other case was soon relieved by free emesis. No unfavorable symptoms followed either case.

Cretinism and Idiotism. By Dr. F. Guggenbuehl, Director of the Hospital on the Abendberg, Switzerland. (Translated and condensed by C. A. Hartmann, M.D., Cleveland, Ohio.)

The diseases named are, in their different forms and degrees, found everywhere except in elevated situations. Both are branches of one tree, the roots of which spread among the population of whole countries. Wherever cretinism exists, there are also the premonitory indications of it: goitre, stuttering, difficult hearing, weak and cross eyes, disproportionate formation of head and body, defective growth generally. Besides these and other defects of the body, the cretins proper exhibit different degrees of stupidity and idiocy. Cretinism is a disease of the cerebro-spinal system, with defective development of body and mind. Where the body is well developed, the disease is called stupidity or idiocy. In every case, the brain itself is suffering, not the skull only. The sutures of the head ossify sometimes early; the occiput is completely flattened, without offering in that formation anything peculiar to the affection. Disease of the brain is the principal feature; its causes are different. The disposition is congenital. Congestive and inflammatory affections of the brain, softening of the bones, convulsions, acute hydrophthalmus, general weakness, scrofulosis, indicate the presence of the disease during the first year of life. Cretins, however, are not exactly idiots, for some of them show prominent talents and isolated intellectual powers. As weak-minded, and therefore disposed to cretinism, are to be considered all children who cannot be educated and instructed by the usual means and ways. An examination should be made in all such cases, by a physician who has a special knowledge and practical experience of the disease.

For practical purposes, it is sufficient to recognize three forms: 1. The highest degree, called erroneously true cretinism; more prevalent during the last century than now. Very stupid expression of the face, large head, full nose, thick lips, enlarged tongue, weak, crippled body; want of locomotion, speech, and frequently even of instinct. To this corresponds the highest degree of idiocy: obliteration of the mind, without prominent disease of the body.

2. *Half-Cretins.*—They are able to articulate words, and to be to some degree educated; though usually beggars, they can do mechanical work. Their senses are not very acute, and they like excitement from tobacco, alcohol, fire. Small and emaciated, they have usually large heads. These patients can be considerably improved in their condition. If the body is not implicated, this form amounts merely to dementia.

3. All the bodily effects are present, but not very marked, and the intellectual power is increased to the formation of short sentences. Here, body and mind can be restored to their normal condition by proper treatment. Stupidity is the corresponding affection of the mind. Individuals of this class are frequently very cunning, malicious, and dangerous; the lower faculties develop themselves, while the higher intellectual powers are suppressed. A certain degree of affection is always present, and the cultivation of this, with the general improvement of health, are the keys to a successful treatment. It must, however, be commenced in early life and continued for at least six years. The institution on the Abendberg has, during the eighteen years of its existence, furnished the most astonishing evidence in regard to the efficacy of a proper treatment, although it is not to be denied that the happy results here obtained are, to a certain extent, due to the invigorating influence of the mountain air.

Endemic cretinism always arises from local influences; perhaps from a specific poison. Consequently, the removal of the patients from their place of residence is of the greatest importance. Even in winter the beneficial influence of pure air is manifest, although it is then more irritating, and requires a careful regulation of the temperature in the building. Experience shows that the medical treatment (expressed juices of plants, aromatic baths, cod-liver oil, ethereal solution of phosphorus, etc.) is best limited to the summer-time, leaving the remainder of the year to recreation and instruction. Liability to convulsions forbids, especially, exposure to cold air.

Statistical researches have disclosed the surprising fact that cretinism, in some more or less developed form, prevails in Great Britain and France, to the number of thirty thousand; in Holland, to six thousand, etc. The National Institute at Rhyegate, near London, the hospital for the exclusive treatment of such patients at the Hague, with several similar institutions in Piedmont and some of the German States, are striking manifestations of the deep interest now felt in the reclamation of these unhappy, and heretofore utterly neglected, beings.

A combination of causes produces the disease, one or the other prevailing in different localities; hence the necessity of further careful and thorough investigations, not in separate localities or single countries, but over whole parts of the globe. Physicians, particularly, must awake to the great importance of such investigations—and some of them have furnished already very valuable contributions. All scientific associations ought to assist in accumulating facts which will enlarge our knowledge of this wide-spread disease, and lead thereby to the establishment of the rules for the most thorough and efficacious educational as well as therapeutical treatment.—*Zeitschr. d. Gesellsch. der Aerzte zu Wien.*

Case of Hydropic Increase of the Liquor Amnii. By JAMES R. WARD, M.D., of Govanstown, Ind.

Mrs. G., the mother of several children, and in good health, was five months *en famille*, when, in the course of two weeks, she found herself rapidly increasing in size, and was so much enlarged that her clothes could no longer be borne unless perfectly loose. She suffered much with dyspnœa, and could rest only when propped up in bed in a half-recumbent position. On my first visiting her, she complained of some pain in the right side, extending down towards the ilium. Her pulse was but litte disturbed, her countenance anxious, and somewhat distressed. I ordered an aperient and rest. On the next day I found her in the dining-room. She had passed a bad night, but felt somewhat better. I advised her to keep as quiet as possible, and if the bowels were not moved, to take another aperient. I was sent for early the next morning, and found, upon examination per vaginam, the os dilated and the membranes protruding. I ruptured them, and she soon gave birth to a living five months infant, which cried feebly. The volume of the uterus not being sensibly lessened, I again examined and ruptured another set of membranes, which was followed by a great gush of fluid, and another child, which also cried more strongly than the first. There were two cords and one placenta. The sac containing the first child was entirely separate from that containing the second. The fluid in the first was about the usual quantity; in the second, greatly in excess, giving rise to the difficulty of respiration. One portion of the amnion was in a normal condition, the other evidently diseased. This is an interesting fact. What gave rise to the increased secretion in the upper sac? What prevented the second sac from being similarly affected?

I have never met with a case similar to the foregoing. In an instance of twins, which occurred in my practice, the first child had been dead for some time, and was entirely separate from the second; the first was born about 9 P. M.; the second at 12 A. M. In this case it was necessary to rupture the membranes, and the mother gave birth to a fine healthy child immediately after the discharge of the amniotic fluid, of which there was a large quantity.

Transactions of the Medical Society of the County of Kings.

JANUARY, 1861.

Dr. BRADY reported the case of a lady previously in good health, not at all nervous in temperament or habits; was confined with first child, and had good delivery; labor not unusually tedious. Seven days after delivery, had a hysterical fit, with symptoms as usual under such circumstances, then fell into a state of torpor, and laid perfectly still; pupils much dilated, yet acting under the influence of light; eyes fixed; pulse 130; sordes on the teeth; will take no nourishment; had been in this condition for three days when the doctor saw her, (in consultation with another physician.) Ordered perfect quietude, the removal of all irritating causes, and gave morphia in full doses. Next day, found the morphia had produced sleep, but she had awoke in the same state as before, and so she continued for four days, making seven days she had been in that condition, when the doctor gave grs. x. of calomel, to be followed in four hours with a large saline cathartic, which produced a large dejection of *black*, offensive matter; repeated the calomel and the saline draught the next day, with the same effect. This was followed with great improvement of the patient, and a speedy recovery.

Dr. NORTH recollected reading of something such a case in the *Buffalo Medical Journal*, reported by a prominent physician of that city, under the head of "Hysterics in a Male." Irritating ingesta were found to be the cause of the peculiar nervous symptoms in that case, and the remedy was a powerful cathartic.

Dr. SMITH related a case of a patient who was attacked with toothache and neuralgia, pain extending to the whole face. Patient would not bear opiates, and he gave large doses of hyoscyamus, with the effect of relieving the pain; yet, at night, the patient will talk almost incessantly, ask and answer questions as direct and rationally as ever, and in the morning know nothing about it; in fact, she was amused and interested the day following, with a report of her own proceedings during the night—now keeping her comfortable upon the sugar-coated asafœt. pills. Thinks perhaps this state of the patient nights may have been brought on by the pretty free use of chloroform upon the face for toothache, in that way inhaling it for a long time.

Dr. JOHNSON reported the case of a child æt. 6 years having swallowed and passed through the digestive canal a sharp and jagged piece of glass, five-eighths by three-eighths of an inch by measurement, without any unpleasant symptoms whatever. It was retained in the bowels three days. Dr. MARVIN was reminded by this of a little patient of his, who recently passed two large carpet-tacks by stool; and in this case, as in that of the glass, there had been no manifestation of injury.

Chronic Bursitis, or Housemaid's Knee, that had attained an enormous Size. Dr. JOHN G. JOHNSON reported the following case, which he had operated upon with complete success:

The patient was a strong, healthy girl, 25 years of age, who was employed in general housework. Two years ago the bursa was so painful as to compel her to leave her place. She obtained no medical advice, although she states the bursa at that time was as large as a hen's egg. When the patient came under Dr. Johnson's observation, the bursa, as shown by the cast of it, taken at the time, measured as follows: Around the base twelve and a half inches, and when the knee was semi-flexed, the diameter of the bursa was five and one-quarter inches from above downward, and elevated from the patella four and one-fourth inches. The bursa was as large as the fœtal head at full term. Dr. Johnson punctured the bursa and evacuated the contents as far as they were fluid, but the bursa soon refilled, and he then adopted the method which is recommended by Mr. Adams, in the *Dublin Hospital Gazette* for May 1st, 1846, namely—opening the bursa freely from above downward—evacuating the contents of the bursal sac, and then exciting inflammatory action by means of a pledget of lint introduced into the cavity. In this operation it was found that the bursal sac was much thickened, containing cartilaginous bodies, attached by a pedicle to the sides of the bursa. These were removed, and a pledget of lint introduced into the bursa; rest and warm fomentations were employed. Very little inflammation external to the bursa was found to exist the next morning. A new dossil of lint was introduced, and the whole bursa was firmly bandaged, except a small point at the lower part of the opening, which was left open, to allow the bursal fluid and the pus that might be formed to escape. Suppurative inflammation ensued within the cavity of the bursa, which was continued by the introduction of fresh lint every day.

The inflammatory action was limited to the bursa, which was now firmly compressed with straps each day. Two weeks from the time of the operation, the sides of the bursa were completely adherent.

The thickness of the sac had diminished very materially. She now resumed her work, continuing the straps.

The diminution in the size of the bursa has been so marked, that were it not for the cicatrix, it would be difficult to determine upon which knee the bursitis had been.

The liability of the bursa to refill, and the supposed danger of operative interference, have caused various methods of treatment to be adopted. Thus, those surgeons who dread operative interference around the knee-joint, have advised that the cases should be treated in the same manner as a synovitis is treated—by rest, blisters and compression. Another method is, to paint the bursa over with a strong tincture of iodine, and cover the painted part with a piece of lint, to prevent the volatilization of the iodine. This to be continued till the surface was blistered, when poultices were to be applied. A third method has been the introduction of a thread through the bursa and allowing it to remain till slight inflammatory action has supervened, sufficient to cause the absorption of the effused fluid. A fourth method has been the introduction of a seton, and allowing it to remain till suppurative action shall have supervened; then allowing the suppuration to continue till the contents of the bursa shall be changed into pus, and when this abscess shall begin to point, to open it as you would an ordinary abscess, and subsequently, to treat it as you would an abscess. A fifth method has been the introduction of the seton, applying poultices over the bursa, moving the seton to and fro every day, not removing it till the breaking down of the mass was complete. This is recommended by Mr. William Brown, in the fifteenth volume of *Braithwaite's Retrospect*, page 173. A sixth method has been the injection of the tincture of iodine. Seventh, subcutaneous puncture, and the evacuation of the contents of the bursa by this method, has been recommended so as to prevent the serous cavity from being exposed to the air, and pressure to be subsequently employed.

A still further method has been the introduction of a small instrument, as, for instance, a small trocar or exploring needle, and irritate the sac, and thus produce adhesion of its sides and obliteration of the tumor. Sir Benjamin Brodie has recommended the extirpation of these tumors, in the same manner as an ordinary encysted tumor should be removed. Dr. Johnson preferred, in cases where the contents of the bursa were fluid, or nearly so, to use the method he had in the case reported. By this means, the character of the bursa was changed; it was no longer a bursa secreting an abnormal amount of bursal fluid, but secreted pus; by this means the bursal sac was thinned, and by compression, adhesion took place between the sides of the sac, so that there was no longer a bursa. If we introduced the seton and produced suppuration, allowing the contents of the bursa to be shut up until the abscess should point, it was not impossible that the integrity of the joint might be affected, as pus had a tendency to work in every direction, and the walls of the bursa might become absorbed as rapidly towards the joint as outwards. The removal of the bursa does not insure the fact that it will not be reproduced. Sir Benjamin Brodie details a case in which an enlarged bursa was removed by Mr. Rose, and within two years from the date of the removal it had again formed, and Sir Benjamin himself operated on the same knee in the same manner, exsecting the diseased bursa.

The plan of operating is not without danger, as, in dissecting the enlarged and thickened bursal sac from the synovial membrane, there is danger of wounding the joint, and all the risks from synovitis, anchylosis, &c., to be met.

The life of the patient may even be a forfeit to this method of operating. Mr. Henry Smith, House-Surgeon to Kings College Hospital, details a case where the patient, a female, of 32 years, died one week after the exsection of a bursa over the knee; phlegmonous erysipelas (and perhaps pyæmia) being the cause of death.—*Medical Gazette*, Nov. 6, 1846, p. 785. The introduction of the seton was a valuable method, but Dr. J. preferred to use this only in cases where the contents of these tumors, from continued inflammatory action, had become solid, or nearly so, and as soon as pus was formed in the cavity of the bursa, to open it, so as to allow free exit to the pus, and then to continue with the pledget of lint, and compression. He did not think it safe to confine the pus within the cavity, even in these solid tumors, till they pointed. He had operated upon several other cases by freely opening them, and inducing suppurative action, and was so well pleased with the results, that he was induced to present them to the Society for their consideration.

One of the cases was in a sea-captain, nearly 70 years of age. In this case of bursitis of the knee, the captain was confined to his bed about three weeks, and the result was completely satisfactory to both patient and surgeon. Prof. Willard Parker saw this patient before the operation, and approved of this method of procedure.

Dr. Hutchison mentioned a case in which he had recently operated. The bursa was situated under the annular ligament. He incised the upper portion of the bursa as far as the annular ligament, and attempted to get adhesive inflammation by firm pressure, but he found that the access of air would prevent this. Dr. Hutchison found that it was necessary to change the character of the fluid. He passed a seton through. There is danger of this procedure, by producing too much inflammation. He approved of the method advised by Dr. Johnson. Dr. Hutchison made the opening in the bursa only as large as was necessary to introduce the lint. He had used the tincture of iodine injections, but thought the method suggested by Dr. J. as safe and effectual as any.

FEBRUARY, 1861.

Dr. R. H. Hinman reported a case, as follows:

A man, aged thirty years, of spare habits and "hang-dog look," waited upon me Tuesday, January 29th, and stated that he had pushed into his rectum a piece of wood, in order to excite an evacuation of the bowels, but unfortunately had forced it up so far that he was unable to withdraw it. After waiting five days, (the bowels not having acted upon his suggestion,) he had come to me for assistance.

At first I did not credit the gentleman's story, but, upon examination, I found his veracity could not be questioned in *that* direction. The stick was *really there*, the presenting end being about four inches within, and deeply bedded in the membrane, lying posteriorly. I endeavored to extract the substance with forceps, but without avail, and after much trouble succeeded in introducing enough of my right hand to grasp and deliver a piece of hard wood, eight inches in length, and more than one inch in diameter.

The only after-treatment I considered necessary was a thorough cleansing of the rectum with warm water and perfect rest, which I found, upon visiting the patient next day, had the desired effect. I then ordered a large dose of "castor oil," leaving the patient a wiser, and, I trust, a better man.

I will add, that the suspicions which arose in my mind as to the cause for using said piece of wood were confirmed at my second interview, the man acknowledging that he had for some time been in the habit of introducing into his rectum different substances, which would produce a "tickling sensation;" he avowing, however, that he had never before used the *fatal stick.*

The conversation here turned to the kindred subject of "self-pollution," and its degrading and horrifying results, and the experience of the members present as to the best modes of treatment; and in speaking of ergot, Dr. O. H. Smith said that some few years ago he gave half a tea-spoonful of the strong tincture of ergot every two hours for *delirium tremens*, intending to have used tinct. opii, *but the ergot put the patient asleep.* He was surprised, of course, and supposed it only a coincidence; yet the next case of delirium tremens he attended he *intentionally* gave the ergot in the same way and with the same effect, and since he has often used it, and looks upon it almost as a specific for *mania à-potu*, and asks the Society to try it.

Dr. North stated that he had lately seen the following case. A boy, eight years of age, received a severe blow upon the side of the head with an icy snow-ball, which resulted in symptoms as follows:

January 29th, 12 m., was called shortly after the injury; patient in a very irritable, unsettled state; incoherent, frightened, continually moving, and every few moments having convulsive attacks; pulse 130; head hot. Enjoined perfect quiet; feet to be put in hot water and cold applications to head, and half a drachm each of tinct. lupuline and spirits lavend. comp. every hour. Returned at 5, p. m.; found patient in about the same condition, except that the convulsive attacks were more regular and more severe, and of a tetanic character; ordered two leeches to each temple, and to continue the lupuline and lavender every two hours, unless he should sleep, when it should be discontinued; and if the patient should become comatose in the night, to inform me.

January 30th, morning.—Patient apparently not any better; had slept very little through the night; leech-bites had bled freely; convulsions had become very sudden in their attacks, and continued frequent, and the parents were describing how singularly he acted, and how difficult it was to hold him, when he was instantly, from apparent perfect rest and comfort, seized with a tetanic spasm, which appeared as if it would force the breath from his body, and double him up entirely backward. Without further delay, I gave two grains of calomel and a half grain of opium every two hours. 1, P. M.—No abatement of symptoms; continue treatment. 7, P. M., the same; gave 5 grains of calomel and 10 of rhei.

January 31st, 7 A. M.—Bowels freely opened a short time before; convulsions described as having been very bad during the night, and worse towards morning; gave verat. viride and tinc. camph., 1 drop each, every two hours. 1, P. M., easier; patient says he is better; convulsions not so often; continue the medicine, but give every hour, unless he gets quiet and prostrated, when it is to be discontinued. 7, P. M., better; still continue medicine, with same precaution as before.

February 1st, morning.—Better; slept pretty well through the night; has had only two fits; gave medicine only every three hours; 5, P. M., better; no convulsions.

February 2.—Patient has slept well; no convulsions; discontinued medicine; the patient entirely recovered in a few days, without any further return of the tetanic symptoms.

A Case of Catalepsy.—Dr. JOHN G. JOHNSON reported the following case of this somewhat rare disease:

On Saturday, the 27th of April, I was called in haste to see Mr. J., who was supposed to be dying. On my arrival, I found him stretched in an arm-chair, perfectly unconscious, with every muscle tense and rigid. The only history that could be obtained of the case was, that he had that day come to the city from Connecticut, where he had charge of an academy. He complained of a little headache, and of being tired. While sitting, conversing with a friend, he was suddenly seized in this manner. Every muscle was fixed, and hardly movable; the limbs and head were in a straight line with the body. The arms were folded across the chest. There was no movement of the thorax in respiration, and no respiration was perceptible. The pulse was so feeble as hardly to be felt between the rigid tendons. The beating of the heart was very faint. The eyelids were closed, and almost impossible to open; the pupils were contracted, and rolled up in the head. He was completely unconscious; pinching or pricking with pins failed to produce the slightest evidences of susceptibility. The joints were stiff. Mr. J. was raised up by his heels, so that his body was held in a horizontal position, with the neck resting on the back of the chair, and the feet in the hands of an assistant. He was held in this manner, with the most of the weight coming on the back of the neck, till the man was tired of holding him; there was not the slightest relaxation of the body, nor the faintest evidence of consciousness; no respiration was perceptible. From the rigid condition of every muscle, the case had the appearance of tetanus, with the exception that the body and extremities formed a straight line, there being neither opisthotonos nor emprosthotonos; and from the lack of consciousness of the patient, we placed him in a number of uncomfortable positions, but he did not manifest the slightest evidence of sensibility. It was almost impossible to move either hand or foot; they retained, however, the position in which they were placed.

The heart's action was so extremely feeble that it did not seem advisable to administer chloroform. The jaws were so firmly clinched that it was impossible for him to swallow the stimulants which were attempted to be given. Mr. J. remained in this rigid, insensible condition for about an hour, when a fluttering of the thorax was noticed. When spoken to, he turned wildly round, with a confused, unconscious stare, and closed his eyes; his limbs became flaccid, and in a few moments he became completely conscious.

In answer to interrogatories, he stated that he felt pain in his abdomen, but nowhere else. Brandy, morphia, and perfect quiet were prescribed. During the night he had a slight return of the cataleptic seizure; this soon passed off, and he continued awake during the whole night, notwithstanding Magendie's solution of morphia was given in twelve m. doses every hour.

Sunday morning, when I saw him, his countenance was quite sallow; he was extremely bilious. He was conscious, and answered the questions rationally, but suddenly, while speaking, was seized again in the same rigid manner as the previous night, and with total loss of consciousness. This attack occurred while Mr. J. was lying on the bed. He was placed in uncomfortable positions, and no indications of consciousness were shown. The limbs would retain whatever position they were forced into. This attack was of short duration, lasting about twenty minutes, when the rigidity of the muscles and joints passed off, but consciousness did not return. He passed into a delirious condition, imagining that some one was attempting to kill a young lady to whom he was engaged, or that an attempt was being made on his own life.

At times, during his delirium, he would figure with amazing rapidity, repeating long rows of figures, and from time to time he would repeat the same figures in precisely the same order. So violent was his insanity, that several men could hardly restrain him. He was perfectly under control, however, when spoken to by a lady whom he took for the one to whom he was engaged, and would take from her whatever we desired. Hyd. mass. was given, with sulph. quiniæ, and the morphia was continued during the day and night. Tuesday morning the delirium was so violent, and had continued for so long a time without rest, that the patient seemed in a very critical condition, and Dr. Mitchell saw the case, in consultation; in addition to what had been done, the doctor advised the inhalation of chloroform and a turpentine enema. The patient continued in the same violent delirium during the whole of Tuesday. It was found impossible to administer chloroform during the day, as the man became so violent when it was attempted. The hyd. mass. was repeated in the morning, and a strong turpentine enema at night. During Tuesday night he had some little sleep, a few moments at a time. Wednesday morning, availing ourselves of a moment of partial repose, chloroform was administered, and he was kept asleep for several hours. Another turpentine enema was administered while in this unconscious condition, and in the course of a few hours a profuse movement of the bowels occurred. Mr. J. now went to sleep without morphine, and slept for several hours. Quinine and iron were prescribed, with brandy. When he awoke he partook of the brandy and beef-tea of his own accord, and again dropped to sleep.

Thursday morning Mr. J. gave a full and succinct account of his previous condition. Since he graduated from Yale, now nearly —— years, he had been employed as a teacher; latterly, having charge of large academies, which had greatly worn upon him; he had taken scarcely any exercise, and his bowels would often go for a week without a movement. In addition to the labors of the day, he devoted himself to mathematical studies during the evening, often sitting till two o'clock in the morning, at work over some difficult problem. It is to this overtasking the mind and the neglect of the laws of health that this condition must probably be ascribed.

One singular feature of the case was, that his hair, which was a jet black, with hardly a gray hair in it, turned nearly gray during the first four days of his sickness, whilst he was in this violent delirious condition. Quinine and iron, with exercise, were directed, and a prolonged absence from his school. Since his return home I have not heard of any return of the seizure.

MARCH, 1861.

Dr. HAWLEY reported a case of *Phlegmasia Dolens* attacking the patient eight days after confinement, affecting both limbs, which yielded very satisfactorily to the prompt use of blisters along the course of the inflamed veins externally, and the administration internally of saline cathartics *only*.

Dr. LEIGHTON reported, in writing, a case, and the results as shown at a post-mortem examination of the same, as follows:

I was called on January the 5th to see Mrs. S., American, aged 18 years. From herself and her nurse I obtained the following history. Five weeks previous to my visit, she was delivered of a healthy child at full term. The labor was natural, but prolonged. On the third day after her confinement, she sprang from her bed quickly, and went to the hall door, which was open. That night she was taken with a violent chill, which was followed by vomiting, severe headache, pain in the back, pain and extreme tenderness over the lower part of the abdomen; suppression of milk and suppression of the lochia. She was bled and purged by the physician then in attendance, and a turpentine stupe applied to the abdomen, which gave temporary relief. Two days after, an offensive discharge from the vagina commenced, which continued for a week, during which time she seemed to be improving.

Some twelve days later, she began to complain of pain in the foot, knee, and hip of the left side, which increased till it became almost intolerable; and from that time she was troubled with irregular chills and sweats. About a week after the pain commenced in the hip, she was attacked with severe pain in the right side of the chest, accompanied with a harassing cough.

Previous to her pregnancy she always enjoyed good health. During pregnancy she had no severe illness, but did not enjoy her usual degree of health. She informed me that her mother died of milk-leg.

When I first saw the patient, she was lying in a half-supine position, but inclined on the right side—the only condition in which she could get any relief from the extreme pain in the left hip and right chest. The skin was pale, and covered with a cold perspiration. The tongue and lips were dry, and the patient very thirsty, continually begging for cold water. The respirations were short, frequent, and difficult; the pulse feeble, frequent, and irregular. She coughed at times, but was unable to expectorate the mucus, which could be heard rattling in the bronchi. On examination of the chest, I found dullness over the whole of the right side, save the infra-clavicular region; and unusual resonance on the left side. Subcrepitant and mucous räles were distinctly heard on the left side, and feebly on the right. The pulsations of the heart were feeble and labored. The left thigh was greatly swollen; the foot and leg were œdematous. The slightest movement of the leg, or the least pressure over the trochanter major, caused the patient to cry out in agony. There was also considerable tenderness over the lower part of the abdomen.

The treatment was brandy, milk-punch, beef-tea, and egg-nog, to be given as freely as the stomach would tolerate. Citrate of quinine and iron, and sulphuric acid, in mixture, as a tonic; and Dover's powder to allay the pain. The local applications were oil of turpentine to the chest and abdomen, and a fomentation of hops to the hip. On the 7th, Dr. Schapps saw the patient with me, in consultation. He agreed with me in the diagnosis, and an unfavorable prognosis.

The patient was relieved of her extreme suffering, and appeared to improve for several days; but the improvement was soon followed by decline, and after lingering beyond all expectation, she died on the 19th of January, fifty days after her confinement.

I made the post-mortem examination twenty-five hours after death. The uterus was unusually small for one so recently impregnated, being scarcely larger than a virgin uterus. It was of a pale-yellowish color, quiet and soft. The microscope showed the muscular fibres to be filled with fat granules. Portions of the uterine sinuses were obliterated by adhesions. The peritoneum covering the uterus and ovaries was extremely vascular, and had several bands of fibrin, firmly organized, adhering to it. No pus could be discovered with the naked eye in the veins or sinuses; but the microscope revealed an abundance of corpuscles, resembling those of pus in the blood taken from the minute veins. The iliac portion of the small intestines presented increased vascularity. The kidneys were very large and flabby; and the membrane lining them was highly engorged with blood. By gentle pressure, a fluid, resembling milk in color and consistency, was squeezed from the lobules of the kidneys, which, under the microscope, had the appearance of pus. The liver and spleen were hyperæmic. The right lung was compressed into a very small space beneath the clavicle by the pus which filled the remainder of the right pleural cavity. The left hip presented externally the appearance of a dislocation; but the leg was of its natural length, and could be rotated more readily than the healthy one. Fluctuation could be felt posterior to the trochanter major. On cutting through the fascia lata, near the great trochanter, I found not less than a pint of pus, occupying a space between the muscles and superior extremity of the femur.

Further examination showed that the pus communicated with the hip-joint through the capsular ligament and synovial membrane. The head of the femur was forced from the acetabulum by the pus within the capsule, making the trochanter more prominent than normal, and giving to the hip the appearance of a dislocation. After dividing the capsular ligament, a slight turning of the foot outward threw the head of the bone completely from the socket, and revealed more clearly the condition of the joint. The ligamentum teres was sloughed entirely off. The cartilages of the femur and the acetabulum were destroyed, leaving the greater part of their surfaces bare. The left iliac vein was marked with increased redness, and contained a clot of unorganized fibrin.

Dr. LEIGHTON stated that he had seen a similar case of pleuritic effusion in a patient in Flatbush Hospital, who died a few weeks after confinement, which he supposes might have been a case similar to the one reported.

Dr. SCHAPPS called attention to a case of *Peritonitis*, attended by him, that was pronounced *puerperal* by Prof. Gilman, who saw the patient in consultation, *commencing* twenty-three days after delivery.

Dr. SCHAPPS also related a case of hysterical blindness and deafness. Patient, an unmarried female; found her with a pulse at 85; no heat of skin yet; great suffering from retention of urine and constipated bowels; drew off the urine with catheter, and administered a cathartic, and relieved the bowels of their vitiated secretion, and the hysterical symptoms were relieved.

Dr. HAWLEY had a patient suffering with albuminuria before and during confinement, who had no convulsions or other serious trouble.

Dr. BRADY reported a case of puerperal convulsions, occurring sixteen hours after confinement with the third child; had convulsions also with first child, but not with the second; he did not see the patient before labor, and could not satisfactorily learn the state of the urine. He bled, and then controlled the convulsions with chloroform; produced evacuation of the bowels in one hour and a quarter, by placing three grs. of calomel on the tongue every twenty minutes. Patient recovered.

MONTHLY SUMMARY OF DOMESTIC MEDICAL LITERATURE.

By T. Gaillard Thomas, M.D.

26. *Changes in Woman's Milk produced by Pregnancy and Menstruation. Food most Proper for Infants when deprived of the Mother's Milk.* By N. S. Davis. (From Berkshire Medical Journal.)
27. *Case of Double Genu-Varum, or Knock-Knee.* By Dr. Louis Bauer. (Philadelphia Medical and Surgical Reporter.)
28. *Causes and Treatment of Dysmenorrhœa and Sterility.* By R. Beverly Cole, M.D. (San Francisco Medical Press.)
29. *Anæsthetics in Midwifery.* By B. F. Barker, M.D. (American Medical Times.)
30. *Case of Rupture of the Bladder treated by Abdominal Section.* By A. G. Walter, M.D. (Medical and Surgical Reporter. Nov. 16, 1861.)
31. *Experiments upon Inferior Animals to determine in what Manner Chloroform produces Death.* By H. Culbertson, M.D. (Cincinnati Lancet and Observer, November, 1861.)
32. *Neuralgia of Fifth Pair.* By Prof. Andrews. (Cincinnati Lancet and Observer; from Chicago Medical Examiner.)
33. *An Anomalous Affection—Was it Hydrophobia?* By H. C. Paist, M.D. (Medical and Surgical Reporter.)
34. *Case of Encephaloid Disease of Kidney—Removal, &c.* By Charles L. Stoddard, M.D. (Medical and Surgical Reporter.)
35. *Case of Polypus of the Trachea.* By W. C. B. Fifield, M.D. (Boston Medical and Surgical Journal, Nov. 14, 1861.)

26. Prof. N. S. Davis presented to the Illinois State Medical Society, at its tenth Annual Meeting, (1860,) a report on this subject, in continuation of one made to the American Medical Association in 1856.

The present report is based on twelve cases of pregnancy, and eight of menstruation. "In all the cases of pregnancy commencing during the continuance of lactation, there was a noticeable change in the quantity of milk-globules; the full-sized globules being fewer, while the mere granules were increased in number. In the milk obtained while the mother was menstruating, the change was much less observable.

"In eight cases the mothers continued to enjoy as good health as is usual during the first three months of pregnancy, when not complicated with lactation; but their children all began to show signs of insufficient nutrition, coupled with more or less disturbance of the stomach and bowels, before the completion of the second month of pregnancy. In two, the children continued well nourished and healthy, but the mothers both became rapidly anæmic, and the organic nervous system extremely excitable, as indicated by palpitations of the heart, muscular weakness, and inability to endure even moderate exercise. In the remaining two, both mothers and children continued to enjoy a fair degree of health until the fourth month of pregnancy; but the children drank freely of cow's milk, and sometimes took other nourishment, and the quantity of milk furnished by the mothers was small.

"Of the eight cases of menstruation during lactation, in three both mothers and children continued well; in three others the mothers continued well, but their children were unusually fretful, and subject to frequent turns of slight diarrhœa; in the remaining two the mothers became affected with erythematic inflammation of the mouth, profuse leucorrhœal discharges after each menstrual period, and much general debility, while the children showed no other signs of ill health than unusual peevishness."

From these facts, the inference is, that the child should be weaned when pregnancy or menstruation begins, or supplied with additional food. Which leads Professor Davis to the inquiries, "What proximate and elementary constituents must food contain to render it capable of affording perfect nutrition to the infant? What articles of food contain such constituents? and what state, in relation to fluidity, temperature, &c., is best adapted to the condition of the digestive apparatus in infancy?"

In common with most medical men, Dr. Davis selects cow's milk as furnishing the best substitute for woman's milk. He doubts, however, the existence of any considerable difference in the proportions of the alimentary principles in the two, and thinks the selection of cream much diluted unnecessary and improper.

Woman's milk, on the authority of Simon and West, contains 33 parts of caseine, 24 of butter, and 46 of sugar, in 1,000; cow's milk, 42 of caseine, 28 of butter, and 24 of sugar, in 1,000. A little attention will show that, in order to imitate human milk, we must reduce both the caseine and the butter, but the caseine especially. We therefore take the top of the milk, in which the relative amount of caseine is diminished; and as the two substances are there positively increased, we must dilute it considerably with water.

Dr. Davis found that "fresh human milk gave to litmus a much more decided alkaline reaction than cow's milk; and when allowed to remain in an open vessel, remained entirely fluid, and without any indications of sourness, for a much longer time. Also, that in most instances in which infants were made to depend on cow's milk for nourishment, and they did not thrive well, the failure seemed to be accompanied by a speedy and excessive generation of acid in the digestive apparatus, indicated either by vomiting of some milk soon after it was taken, or too frequent stools of a curdled appearance and sour smell." He found, by experiment, that cow's milk became sour with coagulation of the caseine in thirty-six hours, while human milk remained perfectly sweet at the end of forty-eight hours. Also, that when diluted, the cow's milk underwent fermentation still earlier. Also, that the addition of lime-water delayed the fermentation, but the addition of a small portion of chloride of sodium or of bicarbonate of soda delayed it still longer. His strong convictions of the evils of much dilution of milk are reiterated at the close of his report:

" From close observation through a series of years, I am satisfied that the excessive dilution of milk, and the use of rice-water, barley-water, bread-water, and such other preparations as require the child to take a large quantity of water to get a small amount of really nutritious matter, greatly favors the prevalence of cholera infantum and diarrhœa, during all the warm season of the year."

27. The patient, a German lad, aged seventeen years, had suffered from congenital knock-knee to a moderate degree; but, since he had embarked in the trade of a baker two years ago, his deformity had so much increased that he could scarcely walk or stand. He applied for relief at the Brooklyn Medical and Surgical Institute. On his admission, he presented the appearance as of great suffering As the cause of his trouble, a contraction of both biceps and vastus externus muscles was found to exist, and they were consequently divided. By means of four pulleys and proportionate weights, two acting longitudinally and the others transversely, (fastened to the knees themselves,) the deformity was overcome, and when, after four weeks, the patient left the institution, he presented results entirely satisfactory. The improvement has since (four months) been progressive, and the locomotion of the lad perfectly free from any inconvenience.

28. The writer professes to have discovered as a cause of these two evils, a condition of the cervix not described by any author:

This condition consists in double flexion of the cervix, without either anteversion, retroversion, or prolapsion—the os occupying (high up) the centre of axis of the superior strait. In these cases, there is no displacement of the os, but a mere settling down of the body, whereby the long diameter of the uterus is shortened. There is no considerable relaxation of the vagina, and hence but slight of the ligaments; indeed, the difficulty would seem to be due to a want of tonicity in the fibrous structure of the uterus itself, rather than to this condition in either the ligaments or vagina.

On examination with the speculum, there is no difficulty in engaging the os and vaginal portion of the cervix uteri in the instrument; but when the sound is introduced, it is soon arrested, by coming in contact with either the anterior or posterior wall of the canal. It then becomes necessary to elevate, or, perhaps, to depress its handle, in accordance with the direction of the flexure, when it once more advances for a short distance, and is again arrested. It now becomes necessary, generally, to reverse the aspect of the instrument, viz.: if its concavity had been looking forward, to turn it towards the sacrum, or *vice versâ.* In one word, the direction and aspect of the sound is to be changed as occasion requires for its advance, until, finally, it reaches the cavity of the body, when there must be restitution of the instrument effected, or, in other words, it must be turned, so as to cause its concave surface to look forward towards the bladder.

The treatment of these cases consists in the daily or tri-weekly introduction of the bougie, which will be greatly facilitated by first introducing the sound, so as to straighten the canal. Or it may be necessary to resort to the compressed sponge, which, from its longer detention and the stimulation of its presence, will usually overcome such cases as are but slightly benefited by the bougie.

When the bougie is preferred or relied upon, it will be necessary to increase its size, gradually, at each operation, that the pressure necessary to the proper degree of stimulation may be exerted.

29. This is an excellent paper, embodying all that the progressive members of the obstetric profession believe upon this important subject. The author prefers chloroform to ether in obstetric practice, and does not think the statistics of accidents occurring in surgical operations applicable here, for these reasons:

(1st.) The conditions under which they are administered are entirely different. In surgery, the anæsthetic is used to give relief from an *anticipated* suffering. In obstetrics, it is used to destroy pain already existing. There is no law better known in medicine than that the tolerance of narcotics and anodynes bears a certain relation to the intensity of the pain. One suffering from peritonitis or colic can safely and with advantage take a quantity of opium which would be sure to destroy the life of the same individual when in health. For this reason, the risk from such an agent must be very much less in obstetrics than in surgery.

(2d.) The emotional condition of the subject under the two circumstances differs materially: in the one case, tending to weaken nerve-force and depress the vital powers; and in the other, to secure tolerance of such an agent by stimulating and supporting the same elements. I do not stop here to discuss more fully the influence of the emotions as affecting the vital functions, although it is a subject of great importance, and one well worthy of the careful study of every practical man. For my present purpose, I think that the mere statement of the proposition is sufficient to secure its acceptance by every mind. When a subject is about to submit to any painful operation and an anæsthetic is proposed, there is always more or less dread and apprehension as to the result, to which is often added an anxiety in regard to the effect of the anæsthetic, whether it will really destroy all consciousness of pain; and if so, whether it will not also destroy life. But in midwifery, the overwhelming desire is to be relieved from the recurrence of the pains; and when the effect of the anæsthetic has once been experienced, it is again sought for with the greatest avidity and confidence.

(3d.) In midwifery, it is ordinarily unnecessary to carry the anæsthetic to the extent to which it is absolutely essential in surgery. In the former, it may frequently be carried to the extent of diminishing or destroying sensation, while consciousness is retained; or, if sleep is induced, it is tranquil, not stertorous. But in surgery it is absolutely requisite that the patient be perfectly still, and the anæsthetic must be carried to the extent of complete sopor, the test of which is heavy snoring. Even if it be necessary to carry it to this extent in obstetrical practice, as it may be in some cases of natural labor, and ordinarily when operative measures, either manual or instrumental, are demanded, the two conditions which have been before mentioned as greatly modifying the danger from the anæsthetic still remain. Furthermore, it may be added, that the system is prepared by the previous use of the agent in a less degree, because there is now no emotional resistance to the effect of the anæsthetic.

His conclusions are these:

In conclusion, I submit the following propositions as a basis for the discussion of the Academy:

(1st.) Anæsthetic aid is of the greatest value in the obstetric art, and chloroform is generally the preferable agent for this purpose.

(2d.) It exerts no injurious effect, when properly administered, either upon the health of the mother or the child.

(3d.) It is perfectiy justifiable to use chloroform in natural labor, solely for the purpose of relieving pain.

(4th.) It is especially useful in calming the extreme agitation and mental excitement which labor often produces in very nervous women.

(5th.) It should be administered in those cases of natural labor where the progress is suspended or much retarded by the pain occasioned by previous diseases, or such as may supervene during labor, and in those cases where the irregular and partial contractions occasion intense and almost constant pain, but have no effect to advance the labor.

(6th.) It is of great service in spasmodic contraction and rigidity of the cervix uteri, in tetanic rigidity of the perineum, in certain forms of puerperal convulsions, and in the various obstetrical operations.

30. John Bohland, 22 years of age, blacksmith by trade, of healthy constitution and strong muscular development, was kicked during a fight, on the lower part of the abdomen, on January 12, 1859. Immediately on receipt of the injury, he became weak and faintish, complaining of violent pain in the region of the bladder. Some hours later, being called on to see him, I found the following condition of the patient: The abdomen, without showing any marks of external violence, was somewhat swollen, and exquisitely tender to the touch, more particularly over the pubis, where the injury had been received. His pulse was quick and small, skin cool, respiration short and rapid; incessant were the painful calls at micturition, with inability to discharge urine. There were vomituritions and vomiting; at first the contents of the stomach; afterwards a slimy bilious fluid was ejected.

Some hours later, no mitigation of the painful symptoms being produced, sickness, vomiting, thirst, and distressing calls to urinate, persisting, tenderness and pain increasing all over the abdomen, with tympanitis, and no urine passing by the catheter—there being no remedial agents in our possession for removing the extravasated urine in the abdominal cavity, without which recovery was out of question—the propriety of *opening the abdomen* pressed itself upon our mind, with a hope of success not otherwise to be obtained. In consultation with some medical friends, the novelty of the proposed proceeding, with its probably hazardous consequences, did not find encouragement, and we were left to rest on our own responsibility in choosing a plan of treatment which at least offered a prospect of success, when otherwise the case was sure to end fatally. Advised of the imminent danger of the case, and its certainly destructive tendency, the patient willingly consented to have abdominal section made for the removal of the poisonous urine. Ten hours after the receipt of the injury, assisted by Dr. Guenste, chloroformization having been induced, the abdomen was opened in the linea alba by an incision, beginning one inch below the umbilicus, and terminating about one inch above the pubes, to the extent of six inches. The intestines were found inflated, their peritoneal coat, as well as that lining the interior of the abdominal walls, already showing evident marks of congestion. A soft sponge was then cautiously introduced into the abdomen, with which the extravasated fluid, consisting of urine and blood, was carefully removed from the pelvis, and between the convolutions of the bowels, amounting to near a pint. While thus inspecting the abdominal cavity, a rent was found in the fundus of the bladder, of two inches in extent, through which the urine had escaped. The cavity of the abdomen being cleansed of the noxious agent, the wound of the bladder was left to itself, as no urine was seen to escape from it. The abdominal wound was closed by strong Carlsbad needles secured by silver wire, (only skin and fascia being stitched, while the peritoneum was left untouched.) A flannel bandage encircled the whole abdomen. The patient, awakening out of the anæsthetic sleep, felt relieved of pain and desire to urinate, so distressing before the operation. Vomiting did not return. Opium again, in one-grain doses every hour, was ordered. Abstinence of drink and perfect quietude of body, with retention of the catheter, were strictly insisted upon. He soon began to doze, had a comfortable night, was free of pain the next morning, complaining only of soreness in the abdomen, without tympanitis, sickness, or calls to urinate; thirst less urgent. The treatment being vigorously continued, for drinks, iced barley-water only in very small quantities, with pieces of ice, being allowed, no unpleasant symptom followed; urine in small quantities, but free of the admixture of blood passing by the catheter. On the third day, the intervals between the doses of opium were lengthened to two hours, on the fifth to three, and thus gradually decreased, as all signs of inflammation had passed, the pulse, though yet quick, having lost its wiry condition. At the expiration of a week, the abdominal wound appeared to be closed by first intention; the stitches, however, were not removed till a week later. The gum-elastic catheter was replaced by a new one every two days, and was not withdrawn for two weeks after the injury had been received, and then only for a short time. At the expiration of two weeks, with the absence of all pain and tenderness, opium was omitted. The intestines were relieved by warm-water injections on the tenth day, when mild nourishment was ordered. Between the second and third week the catheter was permanently withdrawn, and only introduced every four hours, for the evacuation of the urine. After the third week, the patient left his bed, feeling restored to health, and drawing off his urine himself every four hours. He has remained well ever since, working at his trade and feeling no impediment in his urinary organs.

31. After sixteen experiments upon animals, the author draws these conclusions:

Conclusion 1st: That from the effect of chloroform by inhalation, the lungs will cease to act first and the heart last.

Conclusion 2d: That rapid chloroforming does not always produce congestion of the lungs.

Conclusion 3d: That when congestion of the lungs does result, it is sometimes greater in one than in the other, and often present in one and absent in the other.

Conclusion 4th: That collapsing of the lungs in these cases occurred in every instance inversely as congestion was more or less marked.

Conclusion 5th: That we can offer no satisfactory explanation why chloroform should sometimes produce congestion of the lungs and heart, and again paralysis of these organs; save that it may result from being too profusely or rapidly given. Consequently, to obtain the safest effect of the agent, it should be slowly exhibited, and a large proportional supply of fresh air admitted, that respiration may be unarrested and insensibility gradually induced, by the agent passing through the circulation and reaching the sensorium.

Conclusion 6th: That the chloroform enters the circulation and pursues the natural course of that system, and therefore it cannot travel from the lungs to the right auricle, but must course from the right heart to the lungs after it has passed through the systemic circulation.

Conclusion 7th: If the anæsthetic is applied to the lungs, there is either no congestion of these organs, and much dilatation of the heart, or congested lungs and heart.

Conclusion 8th: It is immaterial whether the paralyzing agent be applied locally to the medulla, or to the lungs. In the latter case, a longer time will be required to kill, provided the case is purely of the paralyzing character, and less if congestion of the lungs result.

Conclusion 9th: That the more potent the paralyzing agent is upon the medulla, the sooner does death ensue, and the less is the heart dilated and lungs congested.

Conclusion 10th: That chloroform may produce a general excitement by being applied to the nervous radicles of the nose, throat and lungs, and also induce local anæsthesia wherever applied. Yet to produce insensibility it must reach the sensorium by circulation, and to cause death by paralysis it must locally impress the medulla oblongata. It matters not how much benumbed the afferent nervous radicle of the endocardium by the local action of the anæsthetic, the medulla will continue to be excited by the blood circulating in it, and thus motor agency be sent down to the heart, until the medulla, too, is paralyzed.

Conclusion 11th: That the chloroform, through the circulation, first impresses the cerebrum, producing unconsciousness; then the sensory ganglia, inducing insensibility; next it acts upon the medulla oblongata and spinal cord; and lastly, it affects the sympathetic nervous system.

Conclusion 12th: That the openings in the heart are not generally obstructed by clots, from the effect of chloroform, and hence death cannot take place from obstruction in this organ. On the contrary, we generally find the blood more fluid than natural, and often excessive in quantity in it. The latter, we have no doubt, may induce death under certain conditions.

Conclusion 13th: The fact that the lungs cease to act first and the heart last, sometimes one being relatively more congested, and again the other, would indicate these organs affected through the same channel, and not the heart solely at fault.

Conclusion 14th: That restoration may take place after the lungs have ceased to act, by the institution of artificial respiration in some form, but not after the heart has ceased to beat.

Conclusion 15th: The excitor nerves of the general surface, the fifth, and of the pneumogastric, are, as is well known, the main afferent nerves of respiration, while the facial, the phrenic, the intercostal and the spinal accessory are the motor nerves. It is evident from this anatomical glance, that there is a large excitor lung surface, but, unfortunately, the nerves of this are paralyzed, consequently exciting agents cannot act here to stimulate the medulla. To a certain extent this is the case with the excitor nerves of the mucous membrane of the upper air-passages. The general surface is unaffected locally, and through the excitor nerves of this must we produce our greatest exciting impression. Thus stimulating frictions, cold and hot douche, the hot iron held near the surface, over the spine from one end to the other, may be resorted to. Galvanism may be tried, applied to the medulla and heart, and through the spine. As to the introduction of agents by the lungs into the circulation, so that they may locally excite the medulla, we fear this is almost impossible, for the heart is palsied, and therefore the column of blood will not be sent on to the brain, even if the restorative advance so far as the heart. It must not be forgotten that the excitor radicles of the left endocardium, too, as well as those of the lungs, are benumbed by the anæsthetic, and therefore, even if the excitant reach the heart, it cannot stimulate it to contraction. It is also plain, too, admitting the excitant could even reach the medulla through the circulation, along with it would flow a *chloroformed blood,* which would add to the local anæsthesia of the medulla, if it did not prevent all influence the restorative might otherwise have had.

Again, the heart is mostly supplied from the sympathetic—consequently, could the restorative pass to the medulla, but little effect would reach the heart through the few cardiac motor branches of the pneumogastric. From such considerations as these, it would seem that restoration is probably impossible after the heart has ceased to beat.

It may be that in our experiments we have not properly used the galvanism, and that an exciting fluid could be passed through one of the internal carotids direct to the medulla, and thus stimulate the latter to motiferous action; but this remains to be investigated.

Conclusion 16th: That congestion of the brain, in these cases, seems to be a rare result.

32. In a clinical lecture upon facial neuralgia, Prof. E. Andrews gave the following directions in regard to treatment: First remove the constitutional diathesis, (rheumatic, syphilitic, malarious, etc.,) upon which the local constriction depends. If this does not suffice, surgical interference is to be resorted to. Subcutaneous injection of the sulphate of morphine or atropine over the seat of constriction results often in a permanent cure after a few repetitions. The solution must be prepared of such strength that the syringe will hold the required dose of the narcotic, which is the same as when given by the stomach. The proper place of introduction is a spot near the foramen, which is the seat of structure. This spot, being sharply pressed upon by any small hard object, causes an aggravation of the neuralgic pain. Where this method fails, no remedy is left but extirpation of a portion of the nerve. The excised portion must, if possible, exceed half an inch in length, and is to be taken from the proximal side of the constricting foramen. If the mental foramen of the inferior maxilla be the offending spot, operate at the angle of the jaw, by dissecting up the soft tissues, applying a large trephine upward and forward from the angle, cutting through the external table, prying out the button with an elevator, and dissecting the nerve out. If the fault is at the infra-orbital foramen, a flap must be raised from the cheek as high as the edge of the orbit, and a trephine applied to the front of the antrum Highmori. The button of bone being removed, the bony

ridge concealing the nerve is broken down with some suitable instrument, and the nerve itself dissected out. For excision of the supra-orbital nerve no operation upon the bone is necessary.

33. On the 4th of October, 1861, the author was called to see a cook, æt. 44 years. His pulse was about 90, weak and somewhat intermittent, extremities cold; in fact, the whole surface of his body was below the standard temperature. He also complained of the itching and tingling mentioned by his brother; the least touch on his person by another would throw him into the most violent jactitations from head to foot, with dreadful choking, and earnest appeals, "Don't, oh! don't touch me." I noticed a wash-bowl near his bed, containing about a half pint of saliva; I directed his attention to it, and asked him if that was *water;* the mention of water convulsed him to a dreadful degree, and he cried out, "Don't! don't!!" Not wishing to fill those present with alarming apprehensions, I endeavored to calm him by dropping the subject. I ordered him pills of morphia and asafœtida, and after giving some other directions, left him, promising to return in the afternoon. On my second visit, I found all the symptoms aggravated. I no longer kept my suspicions to myself, but let the family know them, and requested of the brother the privilege of bringing in another physician. I called in Dr. H. Rihl, and we made a number of experiments, such as offering him water, pouring water from one vessel into another, took a lighted candle before him, directed his attention to a looking-glass which was in the room, fanned him in the face, and again behind him when he was not aware that any one was about to fan him, slipped around behind him and touched him, struck the floor with a cane, and many other trivial experiments, all with the same result, followed by the most violent and shocking contortions of the whole body, choking and copious expectoration of saliva. We asked him if he suffered pain in any way; his answer was, "No;" we then asked if he had been bitten recently by a dog or any other animal; his answer was, that 18 or 20 years ago a watchman's dog near Coates and Front Streets had bitten him, but the condition of the dog he did not know, nor never heard afterwards. He had not taken many of the pills—could not swallow them; we tried to get him to swallow one, but without success; the very thoughts of swallowing appeared to convulse him. At this visit, we directed a blister along the whole extent of the spine, to be followed by a dressing of morphia. Called again at 10 P. M.: found our patient worse in every respect; mind wandering slightly, pulse weaker and more frequent, extremities cold, general distress increased, convulsive jerkings much more fre-

quent, spitting large quantities of saliva all around him on the bed or on the floor, or anywhere; this we noticed particularly from the fact of his observing much care on our previous visits where he spat. We endeavored to give him chloroform by inhalation, but with ill-effect. He seemed to have an idea that we were trying to smother him to death; indeed, he seemed apprehensive of danger from every one around him; however, by much perseverance, we succeeded in getting him to inhale enough to slightly quiet him. We directed his brother how to use the chloroform, and left him, promising to make an early call the next morning, and on calling were informed that he had died about 4½ A. M. Were told that chloroform was kept almost constantly to his nose, but without much effect; he died in a sane state of mind, the symptoms continuing till death.

34. On the 4th of June last, I was invited to assist Dr. E. D. Wolcott, of Milwaukie, in the removal of a tumor from the abdomen of Mr. J., aged 58 years. On examination, we found that the patient was a tall, anæmic-looking man, of a peculiar cast of countenance, indicative of serious organic disease. He stated that he was of healthy parentage, and had good health until the appearance of the tumor six years before that time. The physician in attendance stated, that from the first appearance of the disease, some irritation of the urinary organs had existed, but what the deposits were we were unable to learn, as no reliable chemical or microscopical evidence was presented. It was probable, however, from the statements made, that an albuminous deposit was the principal one.

We found the tumor to be large, filling the right hypochondriac region, and pressing the abdominal parietes forward about two inches from their natural level. On palpation, it was evident that it was semi-solid, having a pedicular attachment, apparently to one of the sulci of the liver, with a more extensive attachment to the posterior parietes.

After the administration of chloroform, Dr. Wolcott proceeded to the removal of the tumor by making an incision diagonally across it down to the peritoneum, which we found to be very much thickened, and slightly attached to it. He next made an incision into the tumor, which we found to be an encephaloid mass. He then proceeded to free it from its extensive posterior attachments, after which he found that the superior attachment was a very dense cord-like structure, about an inch in circumference, and apparently proceeding from the posterior part of the liver. Carefully tying the pedicle, he severed this connection with the knife, and, after removing foreign matter carefully from the abdomen, brought the edges of the wound together with common sutures and adhesive strips, which was the only dressing used. After the patient was free from the effects of chloroform, morphia and camphor were administered in sufficient quantities to quiet irritation and produce sleep.

The tumor weighed about two and a half pounds, and on incising it freely, we found undoubted evidence of its being a kidney, from a small portion of its upper portion, which had not degenerated, showing the tubules and a portion of the pelvis of that.

The patient lived fifteen days after the operation, and died, apparently from exhaustion, caused by the great amount of suppuration which necessarily followed.

35. " In March, 1860, she had an attack of asthmatic breathing, with cough and expectoration, which lasted until Aug. 20th. So great was the difficulty of breathing, so large the amount of the expectoration, and so acute the pleuritic stitch accompanying the cough, that I could scarcely doubt the existence of tubercles. The stethoscope, however, showed only great bronchial râles, everywhere present in the chest. During this whole period, from March till August, she never lay down in bed. Propped up with chairs and pillows, she would drop asleep, until her slumber becoming profound, she would fall from the bed to the floor. Getting up, she would again arrange her supports, again perhaps to fall. She was also distressed by the urine being ejected by the violence of the cough: her clothes being always wet, and the urinous odor making her disagreeable to her friends. About the 20th of August, 1860, she had a plentiful eruption of measles. After this, she rapidly grew better, and remained in tolerable health through the winter and spring, the paroxysms being rather mild and rare. The incontinence was less, but still took place when the cough was more than ordinarily severe. She was in tolerably good flesh, but changed from her original tint of rude health to pallor.

About the 1st of July, 1861, she was compelled by poverty to separate herself from her only child. This grief told heavily on her. Shortly after this I saw her. She was then very pale; some dyspnœa; feet and ankles swollen. Auscultation revealed, besides the usual râles, a soft bellows-murmur of the heart, and a well-marked *bruit de diable*, or musical murmur in the neck. Two days afterwards I was called to see her in a fit of hysteria, resulting from an attempt to work, and a conversation regarding her child. Three days after this, she had an attack of dyspnœa, accompanied with vomiting, from which no relief was obtained. For four days and nights she sat with her forehead resting on the back of a chair—she would allow no pillow or other covering upon it. The weather was intensely hot, and she for the first time expressed an ardent desire for death. It came towards the evening of, I think, the 14th of July.

Autopsy, the day but one following. Body well nourished. Heart healthy. Lungs perfectly free from any tubercular deposit. Right lung pale and crepitant. Left lung of a darker color, moderately congested. No appearance of emphysema in either. The lungs being removed from the body, I divided the trachea to the bifurcation. Cutting into the right bronchus, the floor presented some superficial erosions. The smaller divisions were filled with semi-purulent mucus. Turning my attention to the left bronchus, I could not discover its opening. Looking more closely, I found it perfectly covered by a firm, rosy polypus, the size of a small grape. The pedicle being attached to the trachea, at the mouth of the bronchus, it had acted as a ball-valve, allowing expiration, but forbidding inspiration. No other polypi were seen.

The specimen was transmitted to Dr. Ellis, who has furnished the following description of the microscopical appearances:

"The growth was quite soft, of a whitish color, and appeared to separate into many minute lobules, very loosely coherent. On microscopic examination, however, nothing like lobular structure was seen. It appeared to be composed of small granular corpuscles, each about the size of a pus-corpuscle."

REVIEWS AND BIBLIOGRAPHY.

A Treatise on Diseases of the Joints. By RICHARD BARWELL, F.R.C.S., Assistant Surgeon Charing Cross Hospital, etc. Illustrated by Engravings on Wood. Philadelphia: Blanchard & Lea. 1861. Royal 8vo. Pp. 463.

The progress of surgery during the last ten or twelve years has been very rapid. In some of its departments, indeed, advances have been made so rapidly as to leave behind many of its most distinguished professors. Radical changes have been inaugurated in views and procedures, affecting what had for a long period of time been held as the most firmly established principles. And in the whole range of surgical science and art, no subject has received greater contributions in positive knowledge and practical devices than that of the volume under review. "A treatise on diseases of the joints, equal to, or rather beyond the current knowledge of the day, has long been required," as truly stated by the author in his preface. Such a treatise is *really needed* by the profession at large, and it but remains to say whether and how, in our opinion, the one before us supplies the deficiency. As to the histology and certain practical points connected with exsection of joints, the name and labors of Richard Barwell are not unknown, and have long been properly appreciated; and though it cannot be said that he has now presented us with the best book that at this day might and ought to be written on joint diseases, we do hold that his undoubtedly is the best book on the subject actually extant.

His four hundred and forty pages of reading matter are divided into eighteen chapters. In the 1st, "Physiological Anatomy of the Joints," he, mainly, but repeats histological views with which our readers are, we presume, more or less acquainted, as they were presented in the MONTHLY soon after they first appeared in the various periodicals. Prominence is of course given to the tubulated character of the articular lamella first described by the author. The wavy channels "running from the deep or osseous to the superficial or cartilaginous surface of the lamella, permit the passage of nutrient fluid from the bone to the deep surface of the cartilage." The whole account of the articular lamella, illustrated by three or four figures, variously magnified, is reprinted from the *British and Foreign Medico-Chirurgical Review*, October, 1859.

With the 2d chapter the subject proper is fairly reached. The whole volume abounds in sound instruction. We have marked a large number of passages deserving the very highest encomiums, while the most diligent search has disclosed to us but few points for criticism, and we sincerely regret that want of space forbids our quoting many of the former, as well as excluding any statement at length of our objections as to the latter. We should especially like to dwell on the notable contributions by Americans entirely unknown, or only partially known to our author. As it is, we must be satisfied with picking out here and there a scrap for either good or evil report, but nothing that we may say must be so construed as to affect the opinion of the book expressed in the last line of our introductory paragraph.

On page 46 we meet with a case of synovitis, the entire production of which is ascribed to gonorrhœa; and on page 91 it is positively stated that the so-called gonorrhœal rheumatism "is but a mild form of purulent infection." The synovitis must certainly have been caused by something besides the mere local disease termed gonorrhœa.

The notion, wide-spread, though undoubtedly erroneous, that the first effect of synovitis is dryness of the membrane, is completely set aside, (p. 51.) "Congestion of the subsynovial tissue, accompanied by rapid secretion of serous or thin synovial fluid into the joint," is properly stated as the first effect of inflammatory irritation.

In discussing the symptoms, the author accurately describes what is of especial practical value—the characteristic position assumed according to the particular joint affected, (pp. 61–64.) This will invariably be found to be that in which least pressure is exerted upon the diseased surfaces. How suggestive this fact is of the grand yet simple principle of mechanical treatment, viz., to keep these surfaces properly apart, is not fully realized by the author. On p. 67 we read, "Of the local means, perfect fixity of the part is the most important;" and on p. 144, "The first and most important part of the local treatment is rest:" both of which sentences, we suppose, were written before he was perfectly familiar with the mechanical treatment of which, following his example, we shall speak a little more fully under the head of hip-joint disease.

Though our author "cordially commends" free incisions into joints to let out pus, he cannot quite divest himself of the bugbear fear of injurious consequences of entrance of air.

The chapter on acute rheumatism is devoted mainly to proving its inflammatory nature, on which point, however, we fully agree with Dr. B.

The symptoms described under the head of Strumous Synovitis correspond to those observed by M. A. Bonnet, of Lyons,* as occurring after long-continued immobility of healthy joints; a coincidence well calculated to weaken our faith in their depending exclusively on the specific cause assigned to them.

Of the chapters on Strumous Articular Osteitis and Hip-Joint Disease, we can say that they, of all others in the book, both please and disappoint us most. We are pleased to find Dr. Barwell follow the right path; we are disappointed to find that he is not fully conscious of the principles on which successful treatment depends; that his appliances are inferior, and that he does not even mention the name of their originator. The attention of the profession at large having been called to the proper mechanical treatment, some six years ago, already, in the editorial columns of the MONTHLY, and numerous communications on the subject having appeared in its pages since, we cannot doubt but that most of its readers are entirely conversant with it; and we had intended, therefore, to dismiss these chapters with the above remark. But as an act of justice to American Surgery, no less than to Dr. Henry G. Davis, of New York, the originator of the treatment under consideration—and in the hope that this notice may meet the eye of the honored author, (for we are confident, from the spirit of honest candor and noble manliness pervading the whole book, that he has not *intentionally* failed "to give honor where honor is due")—we beg leave to dwell a few moments on the facts of the case. We have for reference only a file of the MONTHLY, and that an incomplete one, at hand, but we think this will prove sufficient for our purpose. We remember that even the pseudo-medical Quarterly, the "*North American Journal of Homœopathy*," gave the "old school" doctor, as the Humbugpaths delight, in their mildest moods, to call the regular physician, a willing tribute as amply deserving the appellation "public benefactor," several years ago;* and in a recent discussion before the highest professional tribunal in the Empire City of our State, the NEW YORK ACADEMY OF MEDICINE, the claims of Dr. Davis were fully sustained by the most eminent practitioners. [See *Bulletin*, vol. I., pp. 191 to 224.]

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* Maladies des Articulations.

Both the principle on which the treatment is based, and the apparatus by which it is ordinarily most effectually and conveniently carried out, are referred to in the editorial mentioned, which, as far as we know, is the first published account of either. But Dr. Davis had been in the habit of employing the same method in his limited practice for some ten years previously, and whenever occasion offered verbally explained it to his professional friends, and urged its trial upon them. He would enthusiastically dwell upon the revolution which its introduction must work in surgery; upon the benefits it would confer on humanity; the saving of health, of limbs, and life; and would add substantially, that before he published it to the world he wanted to perfect it so that every possible objection should be anticipated and obviated. The then editor of the MONTHLY, Prof. Parker, spoke in the highest terms of Dr. Davis.

The March, May, and June Nos., 1856, of the MONTHLY, contain a lengthy article by Dr. Davis, on "Deformities and their Remedies;" and here the whole plan of mechanical treatment, not only for *hip disease*, but also for disease of other joints, lateral curvature of the spine, Pott's disease, wry-neck, bow-legs, and club-feet, is fully laid down. Nay, more even, the advantages and applicability of the same principle in the treatment of fractures,* wounds, and all injuries about the joints, are strongly insisted on. The special treatment under consideration was again taken up at the conclusion of "A Case of Pott's Disease, with Remarks on Morbus Coxarius, etc.," MONTHLY, November, 1859; and also in the "*New York Journal of Medicine*," for the same month, (Nov., 1859,) in an article on "The Effects of Pressure upon the Ulcerated Vertebræ, and in Morbus Coxarius, and the Relief afforded by Mechanical Remedies, with Cases." Finally, in April, 1860, he published "*On the Mechanical Means adopted in the Treatment of Morbus Coxarius.* By H. G. Davis, M.D. (*With a Plate.*") From this full and able paper we quote: "I have delayed bringing the subject of this paper before the profession until time had given me an opportunity, not only to overcome any minor difficulties that might arise, but to test its application, and compare the results with the modes heretofore practiced. It is an unfortunate circumstance that so many new things are hurried before the profession in a crude state, to be condemned or die of neglect, when they could have been highly useful if the inventor or discoverer had taken time to digest and mature his plans, and then apply them until all objections or difficulties should be overcome." "Muscular contractions perform an important part in the destruction of a joint," and "*elastic* extension is the true and philosophical method of overcoming muscular contraction." He tells us he has "invented an apparatus for applying these principles to diseased hip, knee, and other joints," "a method of treating this disease [morbus coxarius] which I have pursued for twelve years; and as it has never been [thoroughly] brought before the profession, it becomes necessary to describe it minutely." Then follows a lengthy description of the instrument, its application, &c., &c. We should also here notice that he has introduced, with the instrument, an important arrangement of material for all surgical purposes, viz., corrugated cast steel, giving strength with lightness.

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* [February, 1857.—ED. MONTHLY.]

Thus, surgery is indebted to Dr. Davis not only for the invention of an apparatus really yet unimproved upon, but also for the introduction of a method of treatment based on the true pathology of the disease, and the principles upon which successful treatment depends in *all* its stages.

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* Dr. Gurdon Buck, of New York City, has fully demonstrated the advantages of the application of the principle to fractures. See *American Medical Times*, and Transactions of the New York Academy of Medicine, Vol. II., Part VII., p. 233.

The essential parts of the apparatus are, simply, means of exerting a *continuous-extending force* on one side, and a resisting, counter-extending one on the other. Many persons cannot comprehend in what really consists the difference between Dr. Davis' apparatus and some of the means previously employed, because the word extension misleads them. They do not make the distinction between the force that fixedly sustains a limb in a position previously more or less extended, and the force that is actually extending all the time; *i. e.*, that exerts a constant pulling power, instead of merely preventing immovably the retrocession of pulling previously exerted. Now this continued or "elastic" extension, as, merely to distinguish it, it might be called, has been introduced into the treatment of hip-joint disease by Dr. Davis. Whether it is attained by position, or weights, or spring-power, does not change the principle; but Dr. Davis had brought even his mechanical arrangement to perfection before others entered the field. Indeed, priority here has not been attempted to be proved by any one else, as far as we know. Our author candidly tells us that he had used it in private practice for about a month, when, on the 14th of June, 1860, he was allowed to apply it for the first time in Charing Cross Hospital. Early in the year 1860, for a considerable time before the full description in the April No. of the MONTHLY, Dr. Scudder had, at Dr. Davis' request, as we know from his own lips, taken one of the instruments to England, for the purpose of exhibiting it to the profession there, and in Paris. Adhesive plaster and rubber were used by Dr. Davis from the first. The only quotation we will take the space to make is the following, from the AMERICAN MEDICAL MONTHLY, May, 1856, p. 330: "There is one point in my mode of making extension which I think, from the long experience I have had in its use, would be an improvement upon the general modes—and it is equally applicable in all extensions and counter-extensions, those of fractures as well as of contracted muscles—viz., the use of rubber as an extending power. This will act steadily and gradually, without any violence, and with very little suffering in comparison with permanent fixtures. When contracted muscle is to be overcome, it steadily wearies it, until it silently comes off conqueror. I would earnestly recommend the profession to give their attention to the use of this article for the accomplishment of extension. What is termed a door-spring is one good form; another, for lighter purposes, is the shirred rubber."

The correspondence of this language with that used by our author (page 326, and bottom of page 267,) is quite remarkable.

The principle of treatment, concisely expressed, consists but in "*abtraction*" of the joint by *continued-elastic-extension,* securing to the diseased structures support without pressure, and motion .without friction. Both of the latter requirements must be satisfied; and though they were equally insisted on by Dr. Davis years ago already, some of the professed improvements on his splint evince the ignorance in this regard (especially as far as refers to motion of the joint) of some prominent members of the profession, even at this day. After Dr. Davis' invention was made, the adaptation of the apparatus to other joints than those he happened to employ it in, hardly entitles a man to any credit; as to the wrist and elbow-joint, we believe ourselves to have been the first to apply the splint.

We should like to have reproduced here the engravings of the "Davis Splint," that we have employed long before any other splint had been brought forward.*

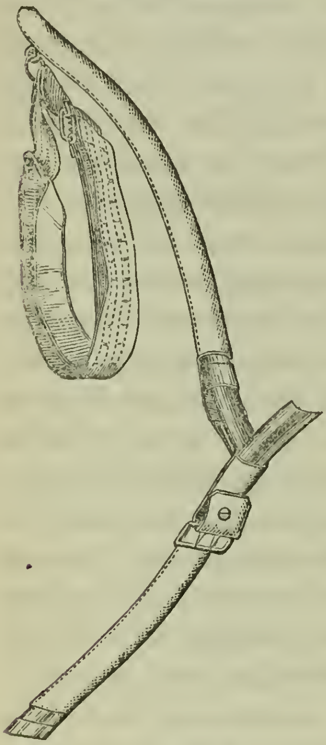

FIG. 1.

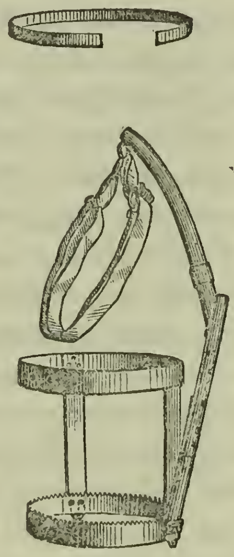

FIG. 2.

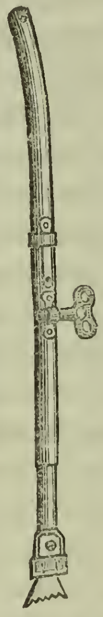

FIG. 3.

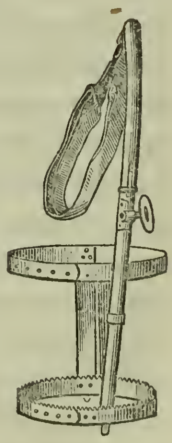

FIG. 4.

[* Figs. 1 and 2 have previously appeared in the MONTHLY. We are not certain that these are the illustrations our reviewer refers to, circumstances rendering his seeing proof-sheets of this article impracticable.—ED.]

No. 1, an elbow-joint splint. The joint admits of the splint's being shortened during its application. When applied, it is secured straight by a slide. The amount of extension is regulated by the band and buckle at the bottom, or the buckles and cat-gut at top.

No. 2, the same principle applied to the femur.

No. 3, the length is varied by a key and ratchet; the key performing the office of a cog-wheel.

No. 4, the key and ratchet, applied to the thigh portion of No. 2.

Besides the apparatus described by Dr. Barwell, there have been "invented" modifications of Dr. Davis' splint, more or less extensive, and, *in our opinion*, more or less spoiling rather than improving it, by Drs. Sayre, Andrews, Hamilton, Taylor, E. S. Cooper, Olcott, Vedder, etc. In passing, we may here also state, that the "Sayre's Splint," described in the *Edinburgh Medical Journal*, December, 1860, by A. M. Edwards, defeats, by fixating the knee-joint with a cap and strap, one of its first objects.

Considering how much we have with the above remarks overrun the space to which we were limited, we must add, that all we have said we felt bound to say, in the cause of truth and in justice to our whole profession, as well as to Drs. Barwell and Davis. We shall never cease, we trust, to raise our voice, feeble though it may be, to uphold the principle, "*Palmam qui meruit ferat.*"

The two concluding chapters, "On the Restoration of Mobility and Conformity to Crippled Joints," and "On the Removal of Diseased Joints," are unsurpassed in excellence by any previous ones in the book. All that our author says on the subject of excision, comparative statistics of amputation and excision, conditions favorable and unfavorable to excision, methods of operation, etc., we wish every surgeon in the United States would read and digest. We must yet add, that his original "*Casuistique*," embracing sixty-six detailed cases, and illustrations, thirty-two in number, are exceedingly valuable and instructive.

Messrs. Blanchard & Lea, of Philadelphia, deserve the thanks of the American profession for having republished a very useful English work in a very superior style. D. G.

The Principles and Practice of Obstetrics. By Gunning S. Bedford, A.M., M.D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Obstetrics, in the University of New York; Author of "Clinical Lectures on the Diseases of Women and Children." Illustrated by four Colored Lithographic Plates and ninety-nine Wood Engravings. New York: Samuel S. & William Wood, 389 Broadway. 1861. 8vo. Pp. 731.

Want of time, alone, prevents us from giving a lengthy critical review of this volume. We do not, however, greatly regret this circumstance, for neither the work nor the profession require much said about it. It seems to have inspired an attachment which nothing but individual possession can satisfy; and if it does not soon overtake the first-born of the Professor's, even, in the number of its editions, it will only be because the issue of each will be manifoldly increased. To praise it, seems somewhat like recounting the virtues of a "sweetheart" to her lover. Besides, as friendly and more able hands have already rendered ample justice in this particular. Our exchanges vie with each other in expressions of admiration. As to ourselves, we need but refer our readers to the favorable opinion we passed on these lectures when they were first presented to the profession, in the columns of the "*New York Medical Press*," several years ago. The author tells us, indeed, that he has carefully revised and greatly improved the work since then; and this, too, we can emphatically confirm, on comparing the two publications. Especially is this true of the lectures on abortion, post-partum hæmorrhage, and puerperal convulsions. This leads us to add, that the greatest fault we can find with the book, is not that any portion of it is bad, but that some parts are so superlatively excellent, that even the brilliancy of others is obscured.

Hereafter, whether as student or as practitioner, the obstetrician needs no other book, as instructor, guide, or *authority*, than *Bedford's Principles and Practice!* In typography, paper, and binding, it reflects, also, the taste and elegance of the man.

Fiske Fund Prize Essay. *The Morbid Effects of the Retention in the Blood of the Elements of the Urinary Secretion.* By William Wallace Morland, M.D. Being the Dissertation to which the Fiske Fund Prize was awarded, July 11th, 1860. Philadelphia: Blanchard & Lea. 1861. 8vo. Pp. 80.

As a condensed and generally correct *résumé* of our present knowledge on one of the most interesting subjects before the profession, this monograph fully deserves the extensive, aye, world-wide circulation secured to it through the republication by one of the most eminent publishers in America, from the *American Journal of Medical Sciences*, (where it originally appeared, April and July, 1861.) While we regret that Dr. Morland has presented us with but a mere compilation, we must also say that the preparation, at least for its permanent form, of a proper index of its contents, would greatly have aided consultation and reference, and facilitated the student's obtaining an impressive general view of the whole subject.

TRANSLATED FROM THE FRENCH, EXPRESSLY FOR THE MONTHLY.

Lectures on Diphtheria. (*Egyptian Disease.*) *Delivered at L'Hôtel Dieu, Paris.* By M. TROUSSEAU.

(Translated by the Editor from La Clinique Médicale de L'Hôtel Dieu, of M. Trousseau.)

(Continued from page 316.)

Tracheotomy.

No one at the present day disputes its Utility and its Necessity—Mode of Operation—The Double Canula—The Dilator—Operate slowly, very slowly—Dangers of the expeditious Method—Dressing of Wound—Cauterization of the Wound—The Cravat—General Treatment—The less energetic the previous Medication, the greater are the Chances of Success—Patients must be nourished—Withdrawal of the Canula—A Condition favorable to Success is to operate as early as possible—Unfavorable Conditions—Death is certain when Diphtheria is malignant—It is almost certain in the case of Children under two years of age.

GENTLEMEN—When all the medication we may have employed has failed to prevent the propagation of diphtheria in the air-passages, and croup exists; when we have vainly essayed to combat it by the means which I have pointed out to you, and which, I must say, are the more frequently powerless; or when we may have been called to render our services to a patient only when croup has been for a long time confirmed, asphyxia is imminent, and the patient is doomed to certain death; then, gentlemen, there still remains to us one important resource, namely, *tracheotomy*. Advised by Stoll, (*Aphorismes sur l'Angine Inflammatoire*,) who seems never to have seen it done, this operation was for the first time successfully performed in 1782, by a London surgeon, John Andrée. It was performed upon a child, whose case Jacob Locatelli reported to Borsieri; you will find it set forth in the *Institutes*, (t. IV., *Angina Trachealis*, § CCCCXXXVI.) In the beginning of this century, a French physician, Caron, extolled it anew, although he had performed the operation but once, and then without success. To M. Bretonneau really belongs the glory of the first success, for the case of John Andrée has been very much disputed. After two unfortunate attempts in 1818 and 1820, the illustrious physician of Tours, in nowise discouraged by these reverses, made a third trial in 1825, upon the daughter of one of his most intimate friends, M. le Comte de Puységur, who had already lost three children by croup; and this time M. Bretonneau had the good fortune to save his patient. I believe that I am the second who, following the example of my master, performed tracheotomy in cases of laryngeal diphtheria, and the second one, also, to record a cure. The case occurred long ago. The child on whom I operated was the son of a man whose name has latterly had a certain notoriety, Mareillet, the magnetizer of the somnambulist, Alexis. I reported the case in the first number of the *Journal des Connaissances Médico Chirurgicales* for the month of September, 1833. At the present day, gentlemen, having performed this operation more than two hundred times, I am so fortunate as to be able to reckon up more than a fourth part as successes. Others after me have entered upon the same pathway, and the results have responded to their efforts. From the Children's Hospital proceeded the impulse which I first gave, and at present there is not a pupil having passed a year in the wards of this establishment who has not cause to felicitate himself for having snatched from the tomb, by means of tracheotomy, one or more children who would have been irrevocably lost but for his intelligent intervention. Having become better instructed by the experience of the past, we attach great importance to the subsequent careful nursing which I shall have occasion to press upon your attention, and the proportion of successes has notably increased. At the hospital of the Rue de Sèvres this proportion has been, for a few years past, more than one-fifth; and this result is considerable, when we remember, on the one hand, the social condition of the children who are brought to the hospital, and the deplorable treatment to which they have been subjected by nurses, quacks, and old women, whose advice is asked rather than that of physicians; when, on the other hand, we recollect especially the attendant dangers of the hospital itself, in which the children operated upon are placed in the very centre of the severest and most varied contagious diseases, so that very often when everything seems to be going on as well as could be wished after tracheotomy, scarlatina, measles, small-pox, whooping-cough supervene, and cause very serious complications. Therefore I do not doubt that in private practice, cure must be the rule in one-half of the cases, provided the operation has been performed under conditions rendering cure possible. These happy results proclaimed on every hand, speak so loudly that all prejudice must fall before them; and I am no longer the only one to advocate the necessity of this operation, and to insist that it is a part of the duty of the physician to perform tracheotomy; a duty as strict as that of performing the ligature of the carotid artery after the wounding of that vessel, although in that case death may follow the operation, certainly as often as a cure. If, in the early days of its introduction, it excited opposition, at the present time it no longer meets with hostility, except among envious, evil-disposed, or ignorant persons.

The opposition which may be presented to it is in nowise serious, and henceforth this triumph of the medical art has taken its place in the domain of ordinary therapeutics.

Tracheotomy consists in opening the tracheal tube in order to give access to the air, whose passage through the natural orifice of the glottis has been almost prevented. The professor of operative surgery will pardon me for trespassing for a moment on his territory, in order to describe to you, if not according to the rules of surgery, at least in my own way, an operation which physicians are oftener called upon to perform than surgeons.

The necessary *instruments* are a slightly convex and sharp-pointed bistoury, and a probe-pointed bistoury, two smooth blunt hooks, with strong handles; in default of them, we may substitute in their place two hair-pins, which can be found everywhere; a *dilator*, a sort of dressing forceps, curved on its flat side, whose two branches form at their extremity a little spur projecting outwardly, so as to cling to the lips of the tracheal wound, and not to become displaced continually during the movements of respiration. This instrument is designed to dilate the opening made into the trachea, in order to permit the introduction of the canula. This *canula* must be double; one, external, the pavilion of which is pierced with two button-holes, to receive the ribbons that are to be tied behind the neck, in order to hold up the apparatus when it is once in place. Independently of these two button-holes, the pavilion has at its upper part a sort of key which plays in a slit made in the corresponding part of the inner canula. This latter having a diameter necessarily less than that of the external canula, is provided at its pavilion with two ears, by which it can be seized whenever we wish to withdraw it or return it to its place; it is fastened to the external canula by means of the little key of which we have just spoken, and which should open and shut easily. The diameter of the canula must be sufficiently great; it will never be too great, provided the instrument enters readily into the tracheal tube. Its curve must be that of a quarter circle; thus M. Mathieu makes them all at the present day, and he has adopted this fixed standard in order to avoid the disadvantages which I pointed out to him; the curve of the different canulas which had been presented to me, being before either too great or not great enough, because the workmen continually varied from the type of the instrument which had been given to them as a model. The double canula is absolutely necessary; and in truth, when we see in what manner Van Swieten insists upon the necessity of a double tube, and that too in accordance with the authority of the English author, G. Martins, we cannot but ask how it is that this precept has been forgotten, and how it is that, in spite of the recommendation of M. Bretonneau, who from the very outset of his operations used a double canula not curved, we have been able to remain several years without making use of it.

The dilator is indispensable. Once I lost a child during the operation; it was a little patient under the care of my friend, Dr. Barth. I came to the consultation without knowing what was the case in question, and I found the child dying. Dr. Barth had a canula and a bistoury. I could not put aside the vessels as I would have wished to, because I had no dilator; I groped my way for some time before entering into the trachea, and yet the blood flowed in great quantities into the bronchii and strangled the child, which assuredly would not have happened if I had had a dilator, which would have allowed me to penetrate immediately into the tracheal tube. However, in default of a dilator, we may have recourse, in order to introduce the canula, to the process devised by Dr. Paul Guersant. It consists in arming this canula with a mandrin, a simple sound of gum-elastic, which passes several centimetres beyond the lower opening of the tube. You will readily perceive how much this modification will simplify the manual operation. The sound is easily introduced into the tracheal wound on the finger, which serves as its conductor, and it answers every purpose to slip the canula upon it in order to put it in its place.

Now let us proceed to the consideration of the operation. The patient is lying on a table furnished with a rather thin mattrass, and with a coverlet several times folded; a pillow rolled up, or better still, a roll of cloth should be placed under the shoulders and the posterior portion of the neck, in such a manner as to stretch the anterior region, and to bring as much as possible into relief the trachea, which we propose to look for. This position is without doubt terribly uncomfortable, especially for a person already suffocating, but it will not have to be maintained a very long time. An assistant placed behind the patient will be charged with the duty of holding his head firmly; another assistant, placed in front of the operator, will be charged with the duty of removing the different layers of tissues and sanguineous vessels with a blunt hook, which he will hold in his left hand, while with the right hand he will be ready to sponge the wound with the fine sponges which should be arranged by his side. Other persons will be needed to prevent the patient from moving. Finally, to omit nothing, if you operate at night, some one will have to hold the candle, which should give a bright light. If the operation is performed by daylight, the patient must be placed directly in front of the window of the room, with his feet towards it, so that the light may fall full upon his neck.

These precautions being taken, the physician standing at the right of the patient—I say at the right, and not on the left, because otherwise he will be annoyed by the projecting chin, unless, indeed, he is ambidexter—the physician standing, then, on the right of the patient, will seize the tracheal region with his left hand, while with the right he will make along the mesian line an incision extending from the cricoid cartilage as far as a little above the sternum. The importance of cutting along the mesian line is such, that by reason of not having made the incision following this exact direction, we may be greatly embarrassed throughout the whole subsequent operation; therefore I recommend to those of you who have no surgical pretensions, to define beforehand the course of the bistoury by a mark made with ink or with a burnt cork. The incision passes successively through the skin and the cervical aponeurosis, and we then come to a small white line which marks the separation of the muscular masses. We sponge away the blood, which is already flowing fast; we then cut along this little white line and separate the sterno-hyoidian and sterno-thyroidian muscles, which, with the blunt hook held in the left hand, we detach from one side, at the same time that the assistant in front of the operator separates them from the other. Here begins the difficulty.

We now come to the isthmus of the thyroid gland, whose size and position, as you know, vary to such a degree that sometimes it only covers the first ring or the uppermost rings of the trachea, while sometimes it has the same height as the body itself. Lower down we find the thyroidian venous plexus, and the artery of Neubauer, when it exists. Then the physician must not forget this capital precept, namely, to respect the vessels. If he sees a large vein he should dissect it, and hold it by drawing it out with the blunt hook. If the left subclavular vein, swollen with blood, projects into the jugular cavity, we must depress it and protect it with the finger, for a terrible accident, I need not say, would be the consequence of wounding it; for a still stronger reason must we pay attention to the brachio-cephalic trunk, which, in the case of children, sometimes projects considerably beyond the supersternal fork.

When we come to the trachea we must free it from all obstacles, and then puncture it by making a small incision as near as possible to the cricoid cartilage, and by directing the bistoury along the nail of the index finger placed at the bottom of the wound. A hissing sound indicates that the trachea is open; we use the sponge, and through the opening made we introduce a probe-pointed bistoury to enlarge the incision. If this incision is made far from the cricoid cartilage, we must enlarge it from below upward in order to avoid the brachiocephalic trunk. Many practitioners prefer to open the crico-thyroidian space, and to cut the cricoid cartilage and the first two rings of the trachea. A moment's reflection will suffice to make it apparent that in acting thus we must necessarily penetrate into the larynx itself, and that if, as quite often happens, the canula remains several weeks in the wound, a partial necrosis of the cricoid cartilage, and even of the thyroid cartilage, will be produced, which may become the source of the gravest ulterior accidents, besides that an irremediable alteration of the voice may result from it. I speak, it must be understood, of what must be done in the case of croup in young persons and in adults, for when I shall speak to you of tracheotomy in other affections of the larynx, I shall tell you that in that case, when treating aged persons, we are sometimes obliged to act otherwise. In the case which occupies our attention it is merely necessary to open the tracheal tube.

I cannot too earnestly insist, gentlemen, upon the necessity of cutting through the tissues, layer after layer, of removing the vessels and muscles with the blunt hooks, and of stripping the trachea completely before opening it; I insist upon the absolute necessity of operating *very slowly.* If even during the operation the child is strangulated, stop, let him recover himself, and let him sit up in order to get his breath; there will be a minute lost, perhaps, but there is nothing to fear. I have never seen *too great slowness* the cause of an accident, and I have often been the witness of the difficulties and dangers of tracheotomy when *too quickly* performed, even when it was done by a skillful operator.

I therefore oppose with all my power the *expeditious* method recommended latterly by Dr. Chassaignac, and which consists in rendering the larynx motionless by means of a tenaculum, in order to penetrate directly into the trachea by cutting through the skin and the parts beneath with one and the same puncture. This process is moreover far from being new. In 1586, Sanctorius, who seems first to have performed tracheotomy, laid down the principle of puncturing the trachea with the trocar which he had invented for abdominal paracentesis.

In 1748 Garengeot also recommended *laryngocentesis* as much superior to the operation by which we reach the trachea by passing through successive layers; still Garengeot[*] prescribes incision of the skin beforehand, without disturbing the muscles, at least in the case of thin persons. This method, the direct puncture without previous incision, is also advised by Heister,[†] because it is more expeditious, and because the canula being introduced at the same time with the trocar, the patient is spared new sufferings. Decker, Bauchot, Barbeau, Dubourg, Richter, had devised *bronchotomes* in order to render the operation more simple and more expeditious still. Van Swieten, in his commentary 813, in which he has treated of bronchotomy at length, opposed this method, whose dangers he readily perceived, having tried it upon the cadaver and upon living animals.[‡] A. Bérard, who had himself also devised a process analogous to that of Heister, learned that the quickest method was not always the best, and towards the end of his life he gave it up, to return to the more common and the more certain process. Dr. Paul Guersant likewise adopted for a time the expeditious method; but at the present day, although he operates more quickly and better than those among us who are not surgeons, he proceeds very slowly, in order to avoid the serious difficulties which I have pointed out. On the one hand, there is danger in holding the larynx; for, as Dr. Millard has judiciously observed in his excellent thesis,[§] as Dr. Lenoir also said in 1841, (Thesis on Bronchotomy,) by opposing movements which are connected with the exercise of a function already seriously threatened, you run the risk of hastening asphyxia and death; on the other hand, you run the risk of exciting mortal hæmorrhages, if by any chance your instrument should meet with arterial anomalies, as in a case communicated to me by Dr. Richet. While operating upon a little girl who was suffering from croup, he was obliged, at the very moment he was about to open the trachea, to cut an artery almost as large as the radial; there was anastomosis of the two inferior thyroids. A ligature applied to the two extremities of the divided vessel stopped the hæmorrhage, and in this circumstance the skillful surgeon had good reason once again to congratulate himself upon the slowness with which he habitually proceeds in the operation of tracheotomy. In another case, I found the left carotid springing from the innominate trunk and crossing the tracheal artery. Moreover, it is not only not easier to puncture the trachea through the skin than at the bottom of a wound, but also the instrument may deviate from its proper course, and instead of penetrating into the air-tube, may pass into the œsophagus, as actually happened to my colleague, A. Bérard. Finally, if, at the very moment when you are about to introduce the canula, a false membrane lining the trachea should get in the way, how could you get at it through a narrow and deep wound? how could you see it in the midst of the flowing blood? Death would then be inevitable.

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[*] Opérations de Chirurgie, t. II., p. 447 et 448.

[†] Institutions de Chirurgie, t. III., p. 153. année 1770.

[‡] "Tentavi aliquoties in cadavere et in viris animalibus hanc methodum, sed "videbatur mini admadum dfficilis, et non carere periculo, ne quandòque valida "vi adactum instrumentum deviaret, unde crederem priorem methodum. licet "magis operosam, præferendum esse."—(G. Van Swieten, *Comment. in Herm Boerhavii Aphorism, de Cognose, et Curand, Morbis*, Aph. 813, t. II., p. 627.)

[§] De la Trachéotomie dans le Cas de Croup, Paris, 1858.

Some of you who have attended the clinic for several years, will remember a case presented in our wards two years ago. On the 27th of May a little girl four years old, attacked with croup, was brought to us; she was *in extremis*, and I hastened to perform tracheotomy. At the very moment when the trachea was exposed to view, I had cut a rather large thyroid vein, and in order to stop the somewhat abundant hæmorrhage occasioned thereby, I hastened to introduce the canula. Still respiration was not re-established; suffocation was very great, and the face of the little patient presented a frightfully livid, bluish hue. I withdrew the canula and introduced the dilator. The child was in a state of apparent death; respiration was suspended, and the pupils dilated; a sign which indicated that the asphyxia had reached a very high point. We then caused the thorax to perform the movements of breathing, and after a minute and a half or two minutes—the time seemed horribly long to us—we saw the patient make certain grimaces; a full inspiration recalled the air into the chest, and life returned. There had happened what I had already observed in the course of a long practice. A false membrane lined the larynx, the trachea, and the bronchii, and at the moment when I inserted the canula this torn false membrane had become engaged with my instrument, which it stopped up, and completely obstructed the passage of the air. When we had re-established the respiratory movement, after having withdrawn the canula and introduced the dilator, this false membrane appeared at the orifice of the trachea; we could seize it with our forceps and draw forth a long fragment of it, which was branched at its lower extremity. The canula was restored to its place and gave egress to other false membranes proceeding from the bronchial tubes, and the expulsion of which was caused by efforts of coughing, themselves excited by tickling the trachea with the end of a feather. The calibre of these tubular false membranes proved to us that the diphtheritic affection was deeply seated; and although respiration was re-established, we could not deceive ourselves as to the results of our operation. The child, in fact, died during the night.

The expeditious method exposes patients to an accident which sometimes occurs, it is true, when the operation is performed according to the surest method. I refer to *emphysema* of the cellular tissue, resulting from the lack of parallelism between the incision of the soft parts and that of the trachea; and from the fact of the tracheal wound being too narrow, we would have difficulty in introducing the canula. This emphysema has nothing alarming about it. When it is limited to the neck and the immediate neighborhood of the wound, it will rapidly disappear, and is an accident of slight importance. But when it is more extensive and invades the chest, it helps to make respiration difficult; if it attacks the face, it has the additional disadvantage of disfiguring the patient and frightening the family. It may also attain extraordinary proportions and become almost general, an instance of which was observed by Dr. Millard; in such a case it becomes an accident of the most serious nature. Besides the dyspnœa which it brings with it, it gives, by reason of the swelling of all the tissues of the cervical region, such a depth to the wound that the ordinary canula becomes too short to reach even to the trachea, and it becomes necessary to resort to the most painful expedients.

Operate, therefore, slowly—very slowly. The trachea is open, but all is not yet over, and that which remains to be done is the portion of the operation, if not the most difficult, at least that which demands the greatest coolness and presence of mind. In fact, at this moment the blood becomes choked up in the bronchii, and as respiration is then more labored, the venous hæmorrhage, far from stopping, flows with even greater force. We must at once seize the dilator, which should be at hand, then introduce it closed between the lips of the tracheal wound, and when it is inserted open it moderately by withdrawing its rings. This manœuvre, easy as it seems, nevertheless demands some skill. It has very often happened that I have placed the end of my instrument between the muscles, and have introduced only one of its branches into the trachea. Here, too, it is necessary to proceed slowly; we must also go as deeply as possible. When the dilator is well placed the air penetrates readily, the blood, the mucosities, and the false membranes are expectorated, and respiration becomes ordinarily easy. At this period of the operation, the assistant who holds the head of the patient should bring it a little forward, in order to facilitate the introduction of the dilator, by relaxing the edges of the wound, and also in order to favor the exit of the blood and mucosities. If a somewhat abundant venous hæmorrhage takes place, as in the case which I just now mentioned, we must hasten to introduce the canula, and the hæmorrhage will at once cease.

The well-placed dilator will serve as a conductor for the canula, which has previously been provided with a ring of caoutchouc, or with gummed taffetas, designed to prevent the pavilion of the instrument from irritating and excoriating the skin of the neck. This introduction of the canula is often very difficult; sometimes the opening of the trachea is missed, and the instrument is plunged in front of this tube into the cellular tissue. We are notified that the canula is properly placed by the passage of the air and of mucus, and by the facility of respiration. It is indispensable that the cannlas should be long, and that they should be inserted into the trachea from one to two centimetres beyond the inferior angle of the wound in this tube. If the canula is too short, it becomes displaced by the efforts of coughing, gets in front of the trachea in a sort of *cul-de-sac*, which is always found there, and the patient dies by suffocation in a few minutes; a frightful accident, which I have three times had occasion to deplore, notwithstanding I had left with my patients students of medicine who had had some experience. In addition, the canula should be firmly fastened about the neck by means of cords.

When we have once penetrated into the trachea, the manner of getting there is in fact a matter of small moment; whether the operation has been performed more or less skillfully or more or less rapidly is equally immaterial, provided we have avoided hæmorrhage, for loss of blood has a very bad influence upon the sequelæ of the operation.

The subject of *treatment* remains to be considered. This wholly medical subject is so important that henceforward it will play the principal part, for while some almost invariably lose all their patients, others save a third part, and sometimes half of them. I should do wrong in speaking only of the treatment *to be* followed; we must also take into consideration that which has been pursued. Let us say at once, for it is the exact truth, that at the present day the greatest number of physicians are fortunately satisfied that the general medications of which I have spoken to you are often useless; that the chances of success will even be greater in the same proportion as these medications may have been less energetic; that blisters especially are attended by the serious disadvantages which I have pointed out to you; and the result is, that they no longer exhaust their little patients by sanguineous emissions, and that they are very careful not to apply blisters. I am, for my own part, thoroughly convinced that if we have been more successful in tracheotomy during a few years past, it is to be attributed as much to the happy direction of the treatment adopted by our associates, as to the method which I have recommended.

Before entering upon this subject of subsequent treatment, I must call your attention to a few details relative to the dressing of the wound, to which I may seem to attach an exaggerated importance; but the older I grow, the more convinced do I become that in therapeutics the minutiæ occupy a much more important position than is commonly believed.

I have spoken to you of the bit of caoutchouc or waxed taffetas which should be placed between the pavilion of the canula and the skin, in order to prevent this latter and the wound from being irritated by the instrument and by the ribbons which keep it in its place.

The neck of the child should be enveloped in a *cravat* of knit wool, or in a large piece of muslin, in such manner that the child will expire into the tissue enveloping the neck, and inspire warm air impregnated with the vapor of warm water produced by the expiration. This is a capital precept; we thus avoid the drying of the cavity of the canula and that of the trachea; we avoid irritation of the mucous membrane and the formation of coriaceous crusts analogous to those formed in the nasal fossæ of individuals attacked by coryza; crusts which, becoming detached in complete tubes, or fragments of tubes, cause frightful attacks of suffocation, and sometimes death, by the closing up of the canula. Before Dr. Paul Guersant and myself had adopted this method, we lost a great number of our patients by catarrhal pneumonia, but at the present time this accident is much more rare. It is probable that the introduction into the bronchii of warm and humid air is an infinitely favorable condition.

This method of surrounding the neck of the patient with a cravat had been pointed out by the ancients. The end they had in view, however, was to prevent the entry into the canula of dust, or of small bodies which might be floating in the air. As G. Martins has observed, it was a chimerical fear. Garengeot, however, had really seized the true indication when he recommended the placing of cotton in front of the canula, in order *to modify the air entering into the trachea;* or better still, to put over the orifice of this canula either a pledget of very light lint, or a piece of linen of rather coarse texture.* But independently of this precaution, useless as to the point of view from which they regard it, the ancients recommended that the air of the chamber in which the patient rested should be kept warm, for cold air might be injurious, that which reaches the lungs by the ordinary avenues of respiration being warmed in its passage through the mouth and the nasal cavities.† In our time it has been proposed, in order *to comply* with this indication, to use in the apartments the vapor of water, but we can readily understand that this method could not take the place of the more simple and more convenient method of the cravat.

There is also another thing to be done, without which cure is rare; I refer to the *cauterization of the wound.* Immediately after the operation, and also the first four succeeding days, all the surfaces of the incision must be vigorously cauterized once during the twenty-four hours with the stick caustic; thus we shall avoid an accident greatly to be feared—the diphtheritic affection of the wound; which becomes covered over with thick and fœtid false membranes. The specific inflammation, spreading in the surrounding cellular tissue, often develops in it a phlegmonous erysipelas of bad character, which becomes the seat of local gangrene, and at least of a violent symptomatic fever and general infection, from which recovery is rare. Dr. Millard says in his thesis that this cauterization is never performed by him at the very time of the operation; and according to information which I have gathered from one of the sisters attached to the hospital of the Rue de Sèvres, who has a thorough acquaintance with the treatment followed by my colleagues, the cauterization is never made, at the earliest, sooner than twenty-four hours after the operation; in addition, the child must be docile, and should have no fever, in which case they wait until the fever has subsided before cauterizing. I could not adopt this method of operating, because I have too often had occasion to know its disadvantages. When the fifth day has come, the surface of the wound is modified to such a degree that these accidents are no longer to be feared.

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* I shall be permitted to reproduce here textually the passage from Van Swieten, relative to this subject:

“Solliciti pariter fuerunt plerique hujus operationis descriptores, ut caverent
“ne rina cum ære pulvisculi in illo volitantes patulum tubi orificium intrarent
“libere; hinc gossipo, linteo carpto, spongia, etc., tegi voluerunt extrorsium patens
“tubuli orificium. *Martinius* tamen usu didicit nullam notabilem inde
“noxam ægro accidere, licet non tegeretur tubuli orificium, quamvis etiam in
“domo non adeò nitida decumberet æger; si tamen indè quid metueretur, posset
“hoc facilè evitari, si collo circumduceretur laxe rarum linteum, spleniis ita in
“vicina tubuli dispositis, ut illud quidem tegeret tubi orificium, non tangeret.”
—(Van Swieten, *loc. cit.*, p. 628.)

† “Expediet tamen ut ær parium calidior sit in loco quo decumbit æger, cum
“frigore suo nocere plus posset quàm dum communi respirationis via in pulmonem
“trabitur, semper in transitu per os vel nares calescens utcumque.”—(Van Swieten, *loc. cit.*)

The operation being performed, the first thing of which the physician ought to think is the *alimentation*. Alimentation, and I have on several occasions, gentlemen, insisted upon this point, is the remedy *par excellence*, for the greater number of acute diseases, and especially for the diseases of infancy. Assuredly, abstinence, prescribed by Broussais, and still advised by a great number of physicians who cannot free themselves from the old man, and who retain too many of the prejudices of their early medical education—abstinence is one of the most mournful complications of diseases; the best suited to keep up the infection of the economy, and to open the door to the absorption of exterior miasms, and of the vicious excretions originating in the diseased body, and most opposed to that capacity of resistance which is the great promoter of convalescence and final cure. I do not mean that we must stuff our little patients with food; I mean only that we must satisfy their appetite, if they have any, and must force them to eat a little if they refuse their food altogether. I return to the point which I have already dwelt upon when speaking of the treatment of diphtheria in general: do not fear to employ intimidation. In that case, by assuming an apparent severity, whose expression I have exaggerated, I have many times compelled children to take nourishment, and I have prepared the way for a cure, which, without it, I had deemed impossible. Milk, eggs, cream, chocolate, soups, are the articles on which I have most insisted. If it is necessary, we must have recourse to the œsophageal sound, in order to introduce into the stomach the liquid food and nourishing drinks which the child refuses to take.

What I have just said sufficiently indicates that I prohibit, in the most formal manner, the continuation of the remedies, which, before the operation, may have been deemed more or less useful, namely: calomel, alum, purgatives, emetics, which cannot be compatible with the alimentation that I recommend.

It is a remarkable fact, that when tracheotomy is once performed, we no longer have to concern ourselves about the pharyngeal or laryngeal diphtheritic manifestations, which previously required to be so vigorously opposed; they get well of themselves. It seems that the disease, when it has reached the air-passages, has exhausted all its force; and if, by affording a passage to the air into the respiratory apparatus, by means of tracheotomy, we prevent the patient from dying, cure will naturally result. I speak of the pharyngeal and laryngeal diphtheritic manifestation, for the cutaneous manifestations must be vigorously combated from the outset, by the topical remedies which I have pointed out, under penalty of seeing them become the occasion of an ominous resorption and a general infection, which must at any cost be avoided.

In the earlier operations of tracheotomy which I performed, I prescribed, after the example of M. Bretonneau, the sponging out of the trachea as far down as possible, with a small sponge fastened to the end of a piece of whalebone. Long since, I renounced this operation, as also the cauterization of the trachea, which I did either with the aid of a sponge filled with caustic, or by instilling this caustic in solution in the water. These manœuvres have seemed to me to be attended with more disadvantages than real advantages. I will say the same also of the *instillation of the chlorate of soda*, devised by Dr. Barthez, who, after having made them the subject of a communication to the Medical Society of the Hospitals, has himself discovered and acknowledged the uselessness of them.

An essential point is the frequent cleansing of the internal canula, so as to render the entry of the air as easy as possible. I recommend that it should be cleaned every two hours.

There now remains a final part of treatment, of considerable delicacy, and upon which I wish to dwell for a moment: it is that which concerns the withdrawal of the canula, and the final closure of the wound.

I do not speak of the method recommended by Dr. Millard, and which consists in at once withdrawing the canula after the first dressing of the wound, which my young and intelligent friend is accustomed to do at the end of the first twenty-four hours. Dr. Millard purposes, by acting thus, to aid the expulsion of the voluminous false membranes, which, being held back by the canula, might obstruct it, and excite attacks of suffocation. Doubtless, in the cases in which this suffocation would be produced, the indication is precise; but in ordinary circumstances I do not see the advantage, still less the necessity, of following this method. Nevertheless, I would assert it as a principle, that the sooner the canula is definitely withdrawn, the better it is; but it can rarely be withdrawn before the sixth day; and it should rarely be left beyond ten days. However, there are cases in which the larynx will remain completely closed during fifteen, twenty, forty-four days; an example of which I have seen in the case of a young girl, who, moreover, recovered. I call to mind, also, a child, who retained his canula for five years. This patient is still living, but he has a fistula of the air-passage.

At the end of the first week, the canula should be withdrawn, care being taken not to frighten the child, nor to make him cry. The poor little ones have become so accustomed to breathe through an artificial passage, that when we close this tube in order to facilitate the passage of the air through the larynx, they are seized with fright, which is expressed by agitation, by cries, and consequently, by an acceleration of the respiratory movements. The larynx is still somewhat obstructed, either by slightly adherent false membranes, or by mucus, or by a slight tumefaction of the membrane; and besides, the laryngeal muscles have, perhaps, lost the habitude of contracting in harmony with the needs of respiration. There often results from this very great oppression; in the greatest number of cases, this oppression passes off well enough, if we can succeed in tranquillizing the little patient, and this is a part which belongs rather to the mother than to the physician. The wound should then be closed with fillets of English taffetas. If the sound of the cough and of the respiration, if the nature of the voice or of the cry indicate that the opening of the larynx is sufficiently large, we leave the dressing of the wound as it is; but if the air only passes in an insufficient quantity, we do not put on the fillets; we merely place on the wound a piece of linen covered with simple cerate, and wait until the next day to close it. If the air does not pass at all, we replace the canula, and two or three days later we recommence the attempt. As soon as respiration is well performed, in spite of the closing of the wound, we renew the dressing three or four times a day, and ordinarily the opening of the trachea is closed at the end of four or five days: there only remains the external wound, which we simply dress, and which soon heals in its turn.

There is a somewhat serious accident to which I have for a long time directed the attention of practitioners, and upon which Dr. Archambault has more especially insisted. I refer to the difficulty of swallowing. This difficulty consists in the passage of drinks through the glottis; there results from this a violent and convulsive cough each time the child attempts to drink, and the liquids which penetrate into the tracheal tube and the bronchii spurt in abundance through the opening of the canula. Besides the sufficiently serious disadvantages which may result from the contact of liquid food with the mucous membrane of the bronchii, food sometimes insoluble, and consequently irritating, there results from it especially an insurmountable disgust, and children rather suffer death from hunger than consent to take nourishment. Too often has this complication been the cause of death after tracheotomy, notwithstanding that I have used every effort to apply a remedy for it. The best method is to interdict all liquid food. I give to children very thick soup, vermicelli in milk or broth, to be eaten with a fork, and not with a spoon; hard eggs, eggs in milk, very much cooked, and meat slightly cooked and in rather large pieces; and I interdict every sort of drink. If thirst is too intense, I give pure cold water, and I take care to give it a long time after the meal, or immediately before it, in order to avoid vomiting. We must remark, however, that the accident of which I speak scarcely ever manifests itself earlier than three or four days after the operation, and that it rarely continues later than the tenth or twelfth day; however, I have seen it continue much longer in the case of certain little patients.

It would seem that the larynx, which opens so readily to receive drinks and liquid food, would be sufficiently open to permit of the air necessary to supply the needs of respiration; it is, however, not so. We withdraw the canula, and we perceive that the opening of the larynx is still insufficient; and even when, a few days later, we have been able to close the wound with agglutinatious fillets, the accidents continue with the same violence.

It is rather difficult to account for the cause of this accident. Dr. Archambault thinks that the child who has breathed through a canula for some days, loses the habit of giving harmonious movements to the muscles, which serve to close up the larynx, and to those which push the food into the œsophagus; and he says that he derived some benefit from the use of a rather ingenious method, which consists in closing the canula with the finger at the very moment when the patient is about to swallow something; thus the child is obliged to use his larynx, and the normal harmony is re-established. This little stratagem, in fact, succeeds very well in some cases, but in others it fails completely; and what I have said above demonstrates this, since, at the very time when the canula has been withdrawn and the wound is completely closed, the difficulty of deglutition continues, although the laryngeal respiration is perfectly free and regular; this depends, probably, upon the fact that the muscles of those parts have been affected by the paralysis of which I have spoken to you.

And now, gentlemen, I have set forth to you all I had to tell concerning tracheotomy and the various measures for performing it successfully. I have repeated to you what I have told you a hundred times during many years past. I would leave the subject, however, incomplete if I did not speak to you now of the conditions under which the operation ought to be performed.

And first, *At what period of croup is the duty of resorting to it most urgent?* In 1834, I wrote in the September number of the *Journal des Connaissances Médico-Chirurgicales.* I repeated in 1851, in an article entitled "*Nouvelles Recherches sur la Période extrême du Croup,*" what you will find inserted in the journal *l'Union Médicale,* as follows: "So long as tracheotomy was in my hands an unreliable remedy, I said—we must perform the operation as late as possible; now that I can reckon up numerous successes, I say, it must be performed as early as possible." Taking from this proposition that which makes it appear too authoritative, and I still maintain it, when I say that *the sooner the operation is performed, the greater are the chances of success.* The ingenious experiments of Dr. Faure have, in fact, demonstrated that, by asphyxiating an animal slowly and methodically, there are produced during the last moments of life blood-clots in the heart and in the large vessels; we must, therefore, operate before death is imminent; but I hasten to add, that whatever may be the point to which suffocation has reached, even though the child might have but a few moments more to live, tracheotomy should be essayed; there is a chance of success *when the local lesion, when croup constitutes the principal danger of the disease.*

This restriction is important; for if the diphtheritic infection has profoundly affected the economy; if the skin and the nasal fossæ are attacked by a special phlegmasia; if the frequency of the pulse, delirium and prostration, indicate a deep-seated poisoning of the system; if, in a word, you have to do with the malignant form of diphtheria, in which the peril consists, rather in this general condition of the system, than in the local lesion of the larynx or of the tracheal tube, *the operation must not be attempted;* death will invariably result.

The condition of success which leads all others, as Dr. Millard has well said in his excellent thesis, is the predominance of the characteristics of asphyxia among all the symptoms presented by the disease. "Unfortunately," as our confrère has also justly observed, "it is not always easy, in the midst of a combination of symptoms frequently very complex, to distinguish with certainty the disorders due to the mechanical affection, and those which are the expression either of the diphtheritic affection, or of a complication of another order." We are often obliged to resort to the urgent indication of causing a dying child to breathe, at the risk of discovering afterwards that he had no chance of recovery; and even when we suspect that he carries within himself the germs of death, we are still compelled, in the absence of an absolute certainty, to perform the operation almost without hope. "Operations of tracheotomy, performed under these circumstances," says, in conclusion, the author whom I take pleasure in quoting, "are attended by no other disadvantages than that of figuring among statistics in the same rank with others; they run the risk also of misleading opinion, and of bringing into discredit one of the most beautiful triumphs of the medical art. But the fear of diminishing the list of his successes should not by any means cause the physician too quickly to discard the operation; not until he has made a minute and thoroughly discriminating analysis of all the symptoms, and has detected a certain cause of death, has he the right to assume so serious a responsibility. This right we have exercised on several occasions, in cases about which there could be no dispute, without ever having had reason, on the autopsy, to regret having done so; but in every instance where we have harbored the least doubt, even though these conditions were very inauspicious, we have nevertheless taken the bistoury in hand, penetrated with the truth of the axiom, *Melius anceps quam nullum.*" These, gentlemen, are wise and prudent words, and for my part, I accord to them my entire approval.

Finally, one subject more remains: it is that of *age;* a capital subject, demanding great consideration. I have told you, gentlemen, that among adults, tracheotomy, in cases of croup, did not succeed as well as with children; I have given this, perhaps unsatisfactory, explanation of it, namely, that in adults the anatomical disposition of the parts permitted a free passage of the air into the lungs for a much longer time, so that diphtheria had the opportunity to reach the bronchii and their most remote ramifications, before we would be compelled to have recourse to tracheotomy; but among children, this success is so much the more certain as the patient is the more advanced in years. This clearly appears, from the statistics prepared to elucidate this fact, from those among others published in the work of Dr. Millard. You know that before the age of two years croup is rare; but as you might nevertheless meet instances of it, as I have myself met with it in children still at the breast, it is essential that you should know that at this period of life tracheotomy has but few chances of success. However, in 1834, I operated upon and cured an infant, thirteen months old, and I ask your permission to reproduce here the history of the case, as published in the number for June, 1834, of the *Journal des Connaissances Médico-Chirurgicales.*

On Sunday morning, May 11th, 1834, Dr. Corsin sent for me to see the child of a cartman, de la Petite-Villette, named Pierre Droolinger. It was a little boy, thirteen months old, still at the breast. He had been coughing for four days, but during Saturday night great oppression supervened; his cough, at first hoarse, ceased entirely, and he had lost his voice. Dr. Corsin was called, and finding the patient already in a desperate condition, he merely prescribed an emetic potion, and sent at once for me. The symptoms of croup were very evident, and the attacks of suffocation were so severe, and followed one another so closely, that I made preparations to perform the operation of tracheotomy.

The operation was laborious, and lasted more than ten minutes; finally, I opened the trachea, and at the very instant a large shred of false membrane spurted out some distance. I cleansed the trachea and the bronchii, instilled eight or ten drops of a solution of nitrate of silver, and inserted a canula. The poor child breathed easily; he looked at us in affright, and sought his mother, who had fled the house. We caused her to be called, and when she came the little one stretched out his hands to her with joy, at once began to undo her dress, and the handkerchief which covered her bosom, and seized the breast with avidity. For three days the canula was changed morning and evening, and every six hours we instilled nitrate of silver; on the fourth day it was injected for the last time. Every hour a few drops of water were thrown into the trachea, and the canula was sponged out. For ten days water was instilled. The child brought up pellicular concretions during four days, but on the second day, especially, he expectorated one which had considerable thickness.

The fever, which made its appearance a few hours after the operation, passed away on the third day. On the seventh day, the introduction of a new canula irritated the wound, caused the neck to swell, and excited anew a high fever. These accidents were quieted on the ninth day; on the tenth, the air passed in great measure through the larynx; on the eleventh, I withdrew the canula and closed the wound. The following day, air passed only through the larynx.

Very recently I had a second case of cure, somewhat similar to the former, although in the latter case the child, being two years old less six days, might be classed within the extreme limits of the age which I have pointed out to you. It was a little girl, born on the 30th of April, 1856; she was brought into our wards on the 24th of April, 1858, and presented all the signs of the last stage of croup. We found no trace whatever of pharyngeal diphtheria. I operated, and after the operation shreds of false membranes were discharged through the wound in the neck. Convalescence was long and difficult. Although unsuccessfully attempted several times, the final withdrawal of the canula could not be accomplished until the seventeenth day. Diphtheria attacked the wound, and yielded only to repeated cauterizations. Finally varioloid supervened, but did not prevent her recovery. The child was taken from Hôtel Dieu on the 13th of May.

Science reckons a third case similar to these two: that mentioned by the *Gazette Médicale*, (1841 and 1842;) it was the case of a child twenty-three months old, who was operated upon and cured by Dr. Maislieurat-Lagémard.

That which among such young children lessens in a marked degree the chances of the success of tracheotomy is the lack of vital resistance, and the difficulty of nourishing the patients; there are also complications to be dreaded, such as the convulsions which are so easily occasioned at that age. Finally, the operation in itself is difficult, by reason of the smallness of the trachea and the shortness of the neck.

EDITORIAL AND MISCELLANEOUS.

— We have received the following Editorial from Dr. Douglas, and substitute it for our own closing remarks; cordially wishing, on retiring from the tripod, all our readers—spite of Rebellion, War, and Carnage—a right merry Christmas and a happy New Year! E.

The present number closes the *Sixteenth Volume* of the MONTHLY. Six volumes had already appeared when the present senior editor united with Dr. PARKER, its first editor, in its management. At that time, the country was passing through a financial crisis, and it was a struggle with the MONTHLY, as well as with most medical journals. Ten volumes have, since then, been issued, the position and condition of the journal growing stronger with each succeeding volume. In 1858, Dr. STEINER united with the other editors, and the three have continued together up to the present time.

The war which now convulses our country has not, in its *blighting effects*, passed lightly by medical journals. One after another, they have been discontinued or suspended, so that now very few remain. Some of the best and longest established have succumbed, and the number grows less and less each month. How many will survive with the coming year cannot yet be said.

Although we have suffered greatly both by the necessary curtailment of our edition from the loss of subscribers in the disloyal States, and by the non-payment of a large number of subscribers in the loyal States, we propose to continue our labors, and look forward with hope to the commencement of a new year and the issuing of a new volume.

For several months past, other duties have prevented us from giving our personal attention to the journal. A regular and valued contributor kindly offered to superintend the issue during our absence. Unavoidable delays have occurred, incident to the circumstances, which will be avoided as much as possible in the future. Our absence has been prolonged much beyond the period proposed, and our present engagements still keep us away from our editorial duties. Arrangements have, however, been made, which will insure an increased number of valuable contributions to the MONTHLY, and will afford its readers, through its pages, a more thorough *résumé* of medical literature than has heretofore been given.

Dr. BENJAMIN LEE, whose communications are well known to the older subscribers, will, with the January number, assume the editorial management during the absence of the senior editor.

Dr. ELSBERG, who kindly took our place for a few months when we were suddenly called away, will resume the control of the department interfered with by his editorial duties, and will hereafter contribute as formerly to our pages.

Reports on special subjects will form a feature of the forthcoming volume. One or more reports will appear in each number. Dr. T. G. THOMAS will prepare a report on Obstetrics and Diseases of Women; Dr. A. JACOBI, on Diseases of Children; and Dr. F. J. BUMSTEAD, on Syphilis. We are also assured of valuable communications from many of the principal teachers and writers in the country. We expect to make the coming volume one of the best of the series yet published.

Our subscribers will observe that, in the midst of all our difficulties, we have endeavored to remain true to our motto: we have striven to progress, to increase the general fund of medical knowledge, and to advance in every way the true interests of the profession, so dear to our hearts. In making these efforts, we have counted upon the liberal support of our subscribers. We trust that it will not be found that we have counted in vain. We therefore call upon our patrons to renew their subscriptions early and promptly. We earnestly urge upon delinquents an immediate attention to their bills.

— "*Infidel Tendencies of Medical Men.*"—All physicians know how untrue are some of the popular notions on medical matters. How far, for instance, the idea that "Doctors are more proof against contagion than other people" is correct, our profession, alas! knows to its cost. But, though popular notions are sometimes utterly untrue, there is no doubt they generally do contain a certain amount of truth, viewed in the right light; and we have before us some remarks on the popular belief (less prevalent, indeed, now than formerly) that "medical men are especially prone to Infidelity and Atheism," which we gladly transcribe.

In a recently published volume of "Miscellaneous Lectures and Reviews," by the Archbishop of Dublin, is a most able lecture on "The Influence of the Professions on Character." Speaking of the medical profession, he says, in reference to the popular belief last mentioned: In a question of fact, such as this, open to general observation, there is a strong presumption afforded by the prevalence of any opinion that it has, at least, some kind of foundation in truth. Certain peculiarities, he thinks, are to be found in the calling of a medical man, which, unless guarded against, are apt to exert an influence more or less subversive of his religious belief.

In the first place, a medical practitioner, as a rule, has no Sunday. The calls of his profession very often do not allow him to attend public worship, or, indeed, to observe his Sunday at all differently from other days. The evil of this is two-fold:—(1.) The advantage, whatever it may be, of public worship is lost. Now, rating this advantage at the very lowest, one is bound (observes the archbishop) to admit this much: that, independently of any edification derived from the peculiar religious services which men respectively attend, the mere circumstance of doing something every week *as* a religious observance must have some tendency to keep up in their minds a degree of respect, rational or irrational, for the religion in whose outward observances they take a part. (2.) When a man is habitually absent from public worship because he *cannot* attend, he is very apt to absent himself when he *can* attend; just as "a man placed in circumstances which interfere with his forming or keeping up domestic habits, or literary habits, or habits of bodily activity, is likely to be less domestic, less literary, more sedentary, than his circumstances require."

In the second place, his profession makes him familiar with death. The danger of such familiarity is this: that unless the instances of others' mortality lead him to live and act with a practical regard to his own, they merely serve to render him more and more insensible both to the sight and idea of death. The medical man, again, is constantly regarding death from one particular point of view, viz., "as the final *termination* of that state of existence with which alone he has *professionally* any concern." Now the habit of *thus* contemplating death must have a tendency to divert the mind from contemplating it in any *other* light; *e. g.*, not merely as the termination of this life, but as the beginning of another.

In the third place, he is apt to find a stumbling-block in certain physiological and metaphysical theories (the immateriality of the soul, for instance,) which he receives—perhaps of his own accord, perhaps on the authority of some eminent divines—as part of revelation, or as essentially connected with it. Such theories "pass muster with the generality of readers and hearers, and, however unprofitable, may be to them at least harmless." Not so with medical men. *They* know enough physiology to perceive the unsoundness of the arguments by which some of these theories are supported, and are apt to conclude that, since the theories are unsound, the religion of which they are assumed to form a part must be unsound also. They forget that such theories are by no means an essential part of revealed religion; that the Scriptures say nothing about them; and that, consequently, their irreconcilability with known physiological truths need not stagger their religious faith one iota. "It is much to be wished," says the archbishop, "that religious persons would be careful to abstain, I do not say from entering on any physiological or metaphysical speculations, (which they have a perfect right to do,) but from mixing these up with Christianity, and making everything that they believe on matters at all connected with religion a part of their religious faith."

Fourthly, it is rather a common belief with many people, and even with some professed divines, that the mode of a man's death, according as it is peaceful or troubled, is a sure criterion of the goodness or badness of his previous life. Now medical men know by experience that this is not the case. They find as a matter of fact that a dying person's state of mind is influenced just as often and just as much by the disease of which he is dying as by thoughts of past life and future prospects. Hence, when they see professed divines confidently stating things which are at variance with facts coming under their own experience, "they are in danger of drawing conclusions unfavorable to the truth of Christianity if they apply too hastily the maxim of *peritis credendum est in suâ arte;* if, in other words, they judge of the truth of their religion by the hypotheses of all who profess to teach it."

The London *Medical Times and Gazette*, of November 30, in which we find the above remarks, editorially accompanies them further with the following:

"Such, very briefly, are the dangers to which the archbishop considers medical men, from the nature of their calling, to be peculiarly exposed. We are glad to find that a man, who, besides being himself a 'divine,' is confessedly a sagacious observer, and a cool, cautious, clear-headed reasoner, has not only thought the subject worthy of his consideration, but has also publicly stated the conclusions at which he has arrived. How far these conclusions are true, each one of us can tell, in his own case, by appealing to his own experience. For our own part, we believe the dangers just pointed out to have a real existence; but we believe, at the same time, that the great majority of medical men are too much *alive* to their existence to fall into them. They *may* be, and, unless they resign their independence of thought, always *will* be, free thinkers on religious matters; but the mass of them are far too well informed to be or to become Infidels or Atheists.

"Before dismissing this subject, we may as well mention a few other notions which are commonly adopted as a part of popular religion, (or, to speak more correctly, of popular religionism,) but which are contrary to sound physiology. They tend, therefore, to discredit in the eye of the physiologist the religion to which they are appendages. Grief, indeed, is it to destroy the poetical dreams from which many pious minds receive consolation, yet they are but dreams.

"What, for instance, are the naked facts respecting the smiles of newly-born infants? Alas! the physiologist ascribes them to causes terrestrial, indeed; and knowing this, we confess that there is a sickening sense of disappointment which creeps over us when we read that exquisite poem in Keble's 'Lyra Innocentium,' in which these smiles are ascribed to angelic promptings, or to the recollection of paradisaical bliss enjoyed by the spirit before it entered the human body at birth:

"'But did the smile disclose a dream
Of bliss that had been his before?
Was it from heaven's deep sea a gleam,
Not faded quite on earth's dim shore?

"'Or told some angel from above
Of glories to be his at last,
The sunset, crowning hours of love,
His labors done, his perils past?'

"The physiologist is tempted to doubt the inward soundness of a structure whose outward ornaments are so false, though beautiful, as these.

"We have mentioned the subject of 'death-bed scenes.' The physiologist who is tempted to read 'tracts' and popular religious literature will see with regret to how great an extent the describers of such scenes draw upon their imagination for their facts, and how thoroughly unreal and conventional are many of the descriptions. Consumption, for example, is painted in such uniformly rose color, as if it were such a gentle, easy death, and affording scope for the display of pious sentiments. Not one word of the terrible sufferings from want of breath, the agonizing restlessness, and occasionally, it must be said, the pardonable querulousness and impatience. The Portuguese call it the 'death of the elect;' and a most learned and estimable clergyman, the Rev. J. M. Neale, in a small volume of 'Hymns for the Sick,' adopts the Portuguese idea.

"Religion is further discredited in the eyes of the physiologist by the readiness with which hysterical symptoms are regarded as proofs of Divine inspiration or miraculous interposition. The end of the matter is, that truth is to be sought at all price; and that the sober prosecution of physiology, though it may disgust us for a time with the false ornaments and appendages of religion, will, in the end, react upon the religious opinions of the masses, and purify them from any adventitious notions with which human frailty may have loaded them."

— We clip the following interesting item from the *Missouri Republican,* from a letter of one of its correspondents now in Cairo, Mo.:

"An association, called the Army Medical Society, has been formed here, composed of the surgeons and assistant surgeons connected with the various regiments and hospitals at Cairo, Bird's Point, and Mound City; its object being the improvement and diffusing of medical science among the members. The meeting was held at the office of Dr. Taggart, the medical purveyor at this post, and was temporarily organized by Surgeon Stahl being called to the Chair, and Brigade Surgeon Burke appointed Secretary. Brigade Surgeon Brinton explained the object of the meeting as being one in which all the surgeons now engaged in the army should feel a deep interest during the war. Surgeon Bringhurst moved that a committee be appointed to report a list of officers for the government of the Association. The following gentlemen were elected: Surgeon Stearns, President; Vice-Presidents, Surgeons Davis and Bowman; Secretary, Surgeon Taggart. They will hold a meeting once a week, and two papers will be read at each, for discussion; and every subject connected with army surgery will be discussed."

— The subjoined case, communicated to Dr. Green, of this city, by Dr. L. B. Bostford, Surgeon of the Marine Hospital of St. Johns, New Brunswick, is a valuable contribution to the history of foreign bodies in the larynx. It also abundantly illustrates the tolerance of this organ to instruments introduced for the removal of such bodies, or for the introduction of liquid medication.

St. Johns, New Brunswick, *Oct.* 11*th*, 1861.

Dear Sir—Knowing the interest you have in all matters affecting the larynx, and thinking that the following case throws some light upon the controversy you have had with your opponents upon the entrance of instruments into the trachea, I forward you the particulars of it.

A sailor was admitted on the 6th inst. into the Marine Hospital, where I saw him about three hours after the accident occurred. He had been using a large-sized tailor's needle, threaded, and whilst holding it in his mouth and coughing, the needle entered the throat. Attempts were made to remove it before he came to the hospital, without success.

When I saw him the thread, a linen one, extended about three inches beyond the mouth; looking into the fauces, no needle could be seen. To ascertain the whereabouts of the needle, I took a gum catheter, cut off the end, passed a thread through, attached it to the thread connected with the needle, and passed the catheter in until it evidently followed the thread down to the eye of the needle. The catheter passed down about seven inches, and violent coughing was induced, such as follows the application of caustic solutions with the sponge.

The probang was next passed into the œsophagus, but produced no disturbance. Slight force applied to the thread caused the man to cough. I was assisted by Dr. Hamilton, of this city. Our diagnosis was, "needle in the trachea, point upward," and we concluded upon opening the trachea and extracting.

Upon further examination of the throat, and endeavoring to ascertain where pain might show the probable position, the man pointed to the neighborhood of the cricoid cartilage, and suddenly exclaimed, "I think I feel it." Pressing upon the space between the cartilages, I recognized what appeared to be the point of a foreign substance. Cutting down through the integuments into the crico-thyroid space, the point of the needle was made bare, and seizing it with a forceps, the needle was drawn out, the thread disappearing down the throat, as it followed the needle through the opening.

The peculiarities of the case were: 1st. The absence of cough, unless the thread was pulled. 2d. The power of speaking, without inducing spasm of the epiglottis.

There can be no doubt but that the needle was in the trachea, and it could not have penetrated through its posterior wall first from the œsophagus, because the probang caused not the slightest uneasiness, which it must have done by coming in contact with the needle, which was about two inches long.

If you think the above worth being recorded in a medical journal, it is at your service.

Believe me, dear sir, yours respectfully, L. B. BOSTFORD.

— Professor Peaslee recently performed the operation of tapping on a young lady at Pittston, Pa., and removed *one hundred and forty-nine pounds and three ounces* (149 lbs., 3 oz.) of dropsical fluid. It was weighed, in Dr. Peaslee's presence, by Dr. Lawson and Mr. J. Loveland, of that place. The abdominal circumference of the patient before the operation was *six feet and two inches*, (74 inches.)

This was the same patient, mentioned in the MONTHLY, June, 1861, from whom Dr. Peaslee removed *one hundred and thirty-five pounds* of fluid (135 lbs.) on the 29th of April last. The circumference then was five feet and seven inches, (67 inches.)

— *Preparation of a Work on "New Remedies."*—In connection with Prof. Percy, the undersigned is preparing a work on "New Remedies." It is based on the celebrated Essay of Dr. V. GUIBERT, to which the *Société des Sciences Médicales et Naturales de Bruxelles* awarded its full prize, and the erudite elaboration thereof by Dr. RICHARD HAGEN, now in course of publication at Leipzig, Germany. Our work will embrace all valuable medicinal agents introduced into the Treatment of Disease since the year 1830, up to the present day, detailing their history, description, action and uses, and giving the most approved Formulæ of Preparation, Preservation, and Administration. In Formulæ it will be particularly full, for the use of both physicians and pharmacists. Novelty not being deemed a sufficient passport for admission into confidence unless sustained by merit, and with the only object—*to be useful*—and the only means—*Labor to approach the Truth*—constantly before us, we are determined that no really useful remedy, introduced during the last thirty years, shall be slighted, while no undue prominence shall be given to undeserving articles. Nor will uncertainty or ignorance at any point that the actual advance of science has not reached, be sought to be concealed by illusory hypotheses or ill-founded statements. Any heretofore unpublished information calculated to add to the practical utility of the work, that may be in the possession of any of our readers, will be gratefully received, carefully considered, and, if used, appropriately acknowledged. The lamentable circumstances that at present preoccupy the mind of every good citizen—our beloved country's trials—may somewhat delay the realization of our enterprise; but we bespeak for it, even in these troublous times, the co-operation of the profession.

— Will Exchanges please notice this Announcement?

ELSBERG.

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